NEWAY


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NEWAY

*CREATION FOREVER*

# CNC Milling and Boring Machine
# HB/PB/FB Series



Cat.NO.:E-HB/PB/FB-2021-01


# Neway CNC Milling and Boring Machine

Neway' s diverse milling and boring machines are designed to meet the high class machining needs of the unique and different industries. The high quality and high precision guaranteed by our zero-defect manufacturing processes have won the trust and praise from manycustomers of worldwide.

PB table type and HB cross slide type CNC milling and boring machine can easily complete a variety of processing such as boring, milling, drilling, tapping, especially suitable for deep hole boring on complex and precision box parts. They are widely used in the machining of national key industries, such as aerospace, shipbuilding, railways, mining and metallurgy, engineering machinery, valves, and new energy.

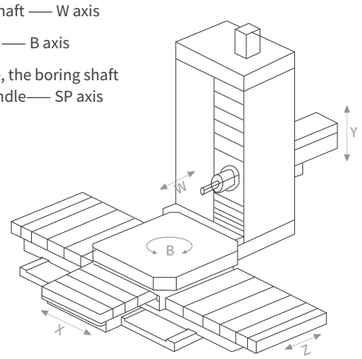
- Key components R&D finished by Neway independently, such as head stock, automatic shifting system (high-speed high precision machining and low-speed high-torque machining), high precision rotary table (achieve high precision indexing 0.001 degree and rotation accuracy increased by more than 30%).
- Excellent rigidity and precision. Large-span bed, double-walled structure column, greatly improved rigidity; using rolling composite guide way structure and top brand components. The transmission components have greatly improved the bearing capacity of the machine tool. The slewing mechanism with double gears to eliminate backlash, ensure accurate transmission of circular grating and effectively guarantee the accuracy of the machine.
- Various options configurations. Neway milling and boring machine can be easily configured with various optional accessories and functions, such as tool magazine, cooling through spindle, heavy loading precision rotary table, right-angle milling head, universal milling head, spindle support sleeve, CNC rotary table, etc.

# CONTENTS

# HB Series-
## CNC Horizontal Milling and Boring Machine

- This series of models adopt a typical cross slide layout, with fixed columns and side-mounted headstock. The worktable can be rotated on the cross slide and the boring shaft can be extended.
- Equipped with high-speed headstock with precision gears, which can be used for both high-speed light cutting and low-speed heavy cutting. One machine is multi-purpose.
- Complete a variety of processes in one clamping, suitable for large parts' milling, boring, drilling, reaming, tapping, turning, etc.
- It is widely used in aerospace, shipbuilding, railway, mining and metallurgy, engineering machinery, valves, new energy and other industries. It is the preferred processing equipment for various parts, such as boxes, housings, and bases.

- Horizontal movement of workt able —— X axis
- He adstock moves up and down —— Y axis
- Longitudinal movement of workt able —— Z axis
- Axial movement of boring shaft —— W axis
- Rotary motion of worktable —— B axis
- Two-layer spindle structure, the boring shaft rotates with the milling spindle—— SP axis




## HB110H

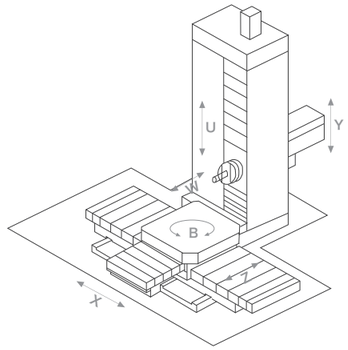
- It adopts precise gear transmission spindle box, equipped with high precision and high rigidity telescopic boring shaft, imported high precision spindle bearings.
- Equipped with precise oil cooling system to effectively control the spindle thermal deformation.
- High torque 3000N.m, high speed 3000rpm.

Neway designed and made spindle

Cross slide type milling and boring machine
(full protection cover is optional)

# HB110U

- This series of models adopt a typical cross slide layout, with fixed columns and side-mounted headstock. The worktable can be rotated on the cross slide and the boring shaft can be extended.
- The main spindle consists of one facing head, one milling spindle , and one boring shaft.
- Complete a variety of processes in one clamping, suitable for large parts' milling, boring, drilling, reaming, tapping, turning, turning, etc.;
- It is widely used in aerospace, shipbuilding, railway, mining and metallurgy, engineering machinery, valves, new energy and other industries. It is the preferred processing equipment for various parts, such as boxes, housings, and bases.




- Horizontal movement of work table —— X axis
- The headstock moves up and down —— Y axis
- Longitudinal movement of workt able —— W axis
- Axial movement of boring axis —— W axis
- Rotary motion of worktable —— B axis
- Facing head sliding movement —— U axis
- Three-layer spindle structure, the boring shaft rotates with the milling spindle; the facing head can rotate independently, and can also rotate at the same time with the milling spindle together —— SP axis

## NC Horizontal Facing Head

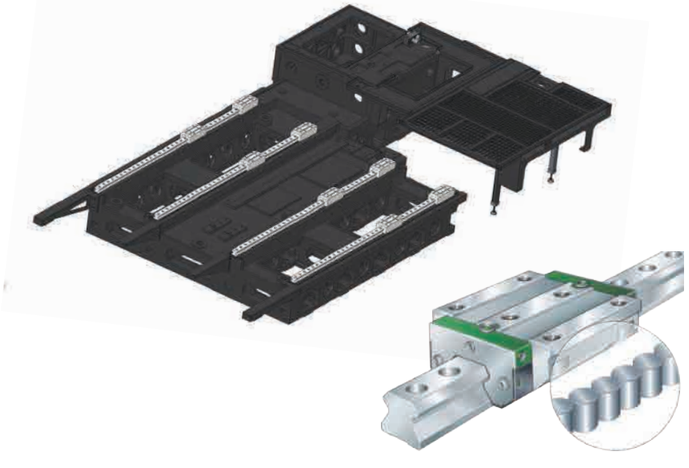
- The spindle composed of three layers of spindle, one facing head, one milling spindle and one boring shaft. The boring shaft is equipped with tool clamping & unclamping device.
- The facing head and its spindle are installed in the spindle box; the milling spindle support sleeve is installed in the facing head and can rotate independently; the boring shaft is embedded in the milling spindle, which can be axially telescopically moved and kept synchronized with the milling spindle.




# HB110S


## Heavy Duty Roller Linear Guideway

- The linear axis adopts precision imported heavy-duty roller linear guide way, great upgrading of the feed speed and acceleration, with better dynamic performance, higher cutting efficiency, higher load-bearing capacity and higher positioning accuracy.

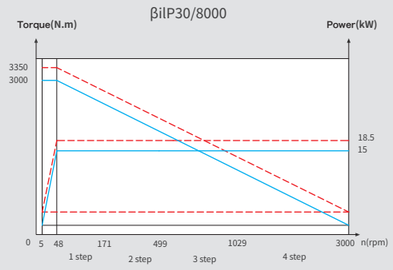


## Bed Structure

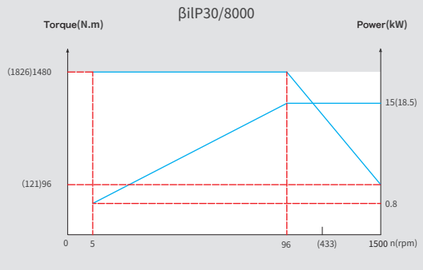
- HB110H/HB110U models adopt high rigidity overall heightened bed design, light weight sliding saddle structure, ensuring low speed heavy cutting and high speed light cutting, high efficiency, high precision and high reliability.
- The bed adopts multi-point support, humanized structure design to realize pleasant operation, easy assembly & maintain.

## Spindle Power Torque Diagram

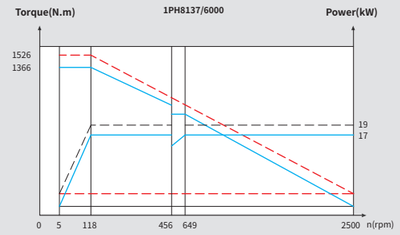
### HB110H




### HB110U

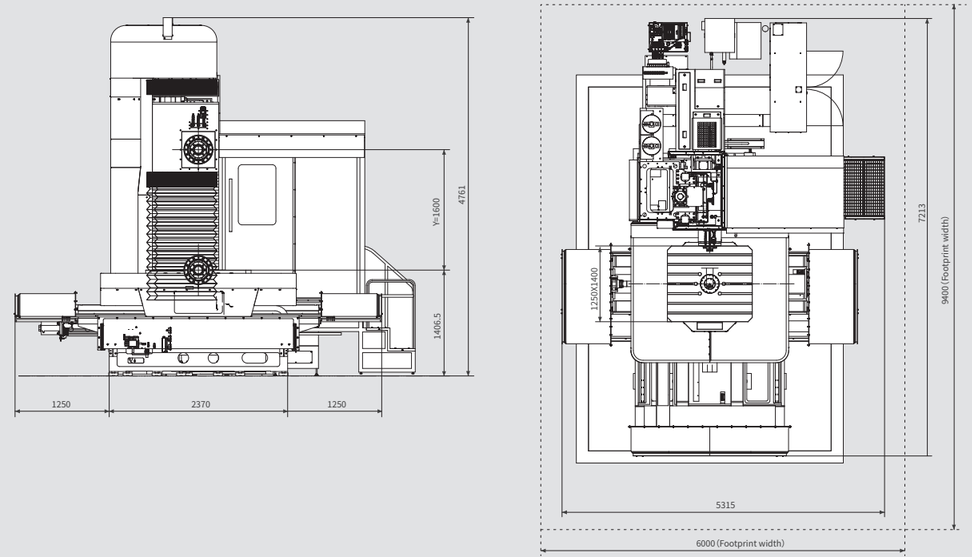



### HB110S

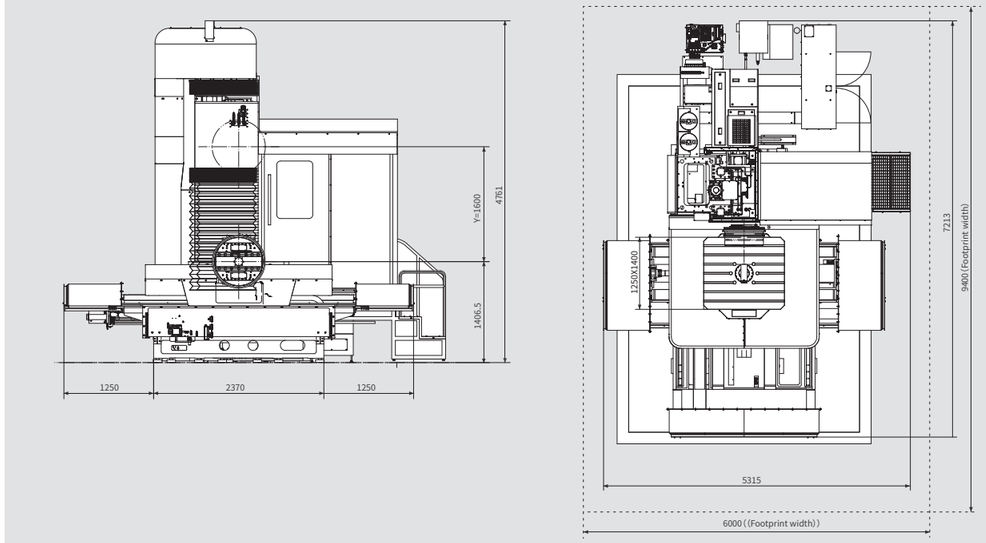



## External Dimensions

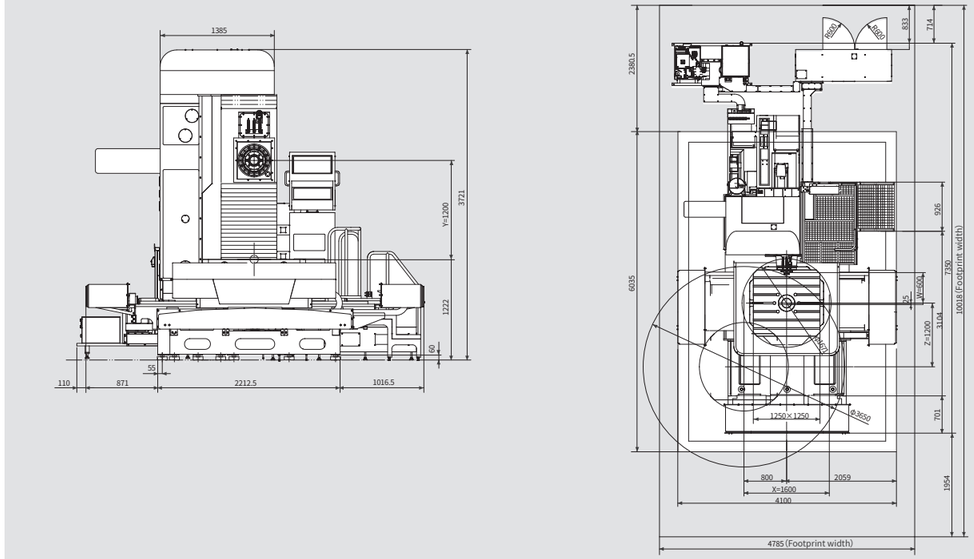
### HB110H



## HB110U




## HB110S




| Item | | Unit | HB110H | HB110U | HB110S |
|---|---|---|---|---|---|
| Worktable | Worktable Size | mm | 1250×1400 | 1250×1400 | 1250×1250 |
| | Max. Worktable loading | kg | 5000 | 5000 | 5000 |
| | T slot width | mm | 28 | 28 | 28 |
| | Min. table indexing | ° | 0.001 | 0.001 | 0.001 |
| | Max. worktable speed B | rpm | 2 | 2 | 3 |
| | Max. worktable travel X | mm | 1800 | 1800 | 1600 |
| Woking capacity | Spindle box travel Y | mm | 1600 | 1600 | 1200 |
| | Column travel Z | mm | 1400 | 1400 | 1200 |
| | Spindle axial travel W | mm | 600 | 600 | 600 |
| | Facing head sliding moves U | mm | / | 200（±100） | / |
| | Workable travel B | ° | 360 (any angle) | 360 (any angle) | 360 (any angle) |
| | Spindle center line to woktable | mm | 0～1600 | 0～1600 | 0～1200 |
| | Spindle terminal to center line of worktable | mm | -25～1975 | -130～1870 | -25～1775 |
| Travel | Rapid speed X/Y/Z/W/U | m/min | 5/5/5/3 | 5/5/5/3/2.5 | 12/12/12/8 |
| | Max. cutting feed speed X/Y/Z/W/U | m/min | 3/3/3/2 | 3/3/3/2/1 | 10/10/10/6 |
| Spindle | Boring shaft dia. | mm | ϕ110 | ϕ110 | ϕ110 |
| | Milling shaft end dia. | mm | Φ221.44 | / | Φ221.44 |
| | Spindle taper | - | BT50 | BT50 | BT50 |
| | Pull stud size | - | MAS403 P50T-1 | MAS403 P50T-1 | MAS403 P50T-1 |
| | Motor power | kW | 15/18.5 | 15/18.5 | 17/19 |
| | Spindle speed | rpm | 5～3000 | 5～1500 | 5～2500 |
| | Max. milling shaft torque | N.m | 3000/3651(30min) | 1480/1826(30min) | 1366/1526(30min) |
| | Max. boring shaft tensile | N | 15000 | 15000 | 15000 |
| Facing head | Facing head dia. | mm | / | ϕ670 | / |
| | Facing head speed | rpm | / | 7-165 | / |
| | Max. Facing head torque | N.m | / | 2227/2742(30min) | / |
| Magazine | Tools | - | 1 | 1 | 1 |
| | ATC (option) | - | [ 40 (chain type)] | [ 40 (chain type)] | [ 40 (chain type)] |
| | Tool size | - | MAS403 BT50 | MAS403 BT50 | MAS403 BT50 |
| | Max. tool dia/length/weight | mm/mm/kg | Φ125/400/25 | Φ125/400/25 | Φ125/400/25 |
| | Max. tool diameter (empty neighbor cell) | mm | Φ250 | Φ250 | Φ250 |
| Machine accuracy | Min. setting unit | mm | 0.001 | 0.001 | 0.001 |
| | Positioning accuracy X/Y/Z/W/U | mm | 0.02/0.02/0.02/0.02 | 0.02/0.02/0.02/0.03/0.03 | 0.015/0.015/0.015/0.015 |
| | Repositioning accuracy X/Y/Z/W/U | mm | 0.015/0.015/0.015/0.015 | 0.015/0.015/0.015/0.025/0.025 | 0.01/0.01/0.01/0.01 |
| | Positioning accuracy B | ″ | 10 | 10 | 10 |
| | Repositioning accuracy B | ″ | 6 | 6 | 6 |
| Other | CNC controller | - | NEWAY FANUC [SIEMENS] | | SIEMENS 828D [FANUC] |
| | CNC coordinate axis number | - | Total 5 axis, 4 axis interpolation | Total 6 axis, 4 axis interpolation | Total 5 axis, 4 axis interpolation |
| | Auto chip conveyor (option) | - | [Chain-plate chip conveyor (two)+ external coolant tank | | |
| | Machine power capacity | kVA | 55 | 55 | 55 |
| | Air source/pressure | - | 500L/min 6~8bar | 500L/min 6~8bar | 500L/min 6~8bar |
| | Machine weight | kg | 21000 | 21300 | 16000 |

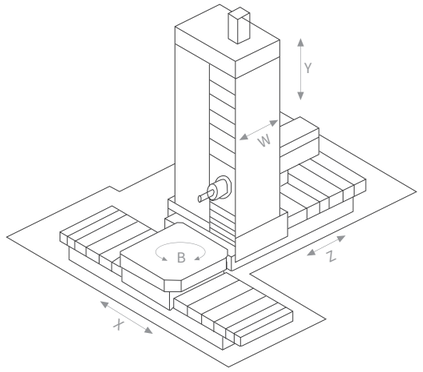
**Standard configuration:**
B-axis circular optical scale, operator room, water tray, full protective cover for bed, full protective cover for column

**Optional configuration:**
Tool magazine, chip conveyor, tool external cooling (large water tank), tool internal cooling (center water), X / Y / Z / W axis linear scale, workbench protection room, complete machine protection, tool detection, etc.
HB110H: Boring shaft support sleeve, right-angle milling head, extension milling head, universal milling head, facing head, etc.

# PB Series-

## CNC Table Type Horizontal Milling and Boring Machine

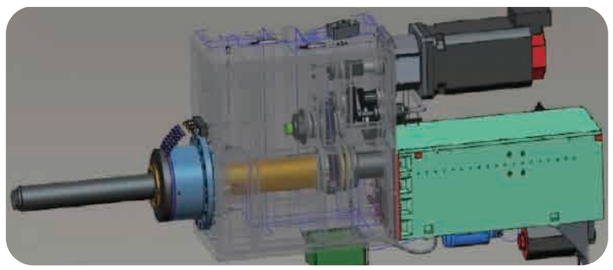
- This series of models adopt a typical horizontal table type structure, with the headstock side mounted, the boring shaft embedded in the milling spindle, the rotary worktable placed on the top of the horizontal slide.
- The main spindle is equipped with a gearbox, which is suitable for both high-speed light cutting and general low-speed high torque machining.
- Complete a variety of processes in one clamping, suitable for big parts' milling, boring, drilling, reaming, tapping, turning, etc.
- Widely used in aerospace, shipbuilding, railway, mining and metallurgy, engineering machinery, valves, new energy and other industries.




- Horizontal movement of worktable —— X axis
- Headstock moves up and down —— Y axis
- Longitudinal movement of column —— Z axis
- Axial movement of boring shaft ——W axis
- Rotary motion of the worktable —— B axis
- Two-layer spindle structure, the boring shaft rotates with the milling spindle —— SP axis


## PB130H

- Telescopic precise spindle is composed of boring shaft, milling spindle, tool clamping & unclamping system and so on.
- The spindle cooling adopts a high-performance oil -cooled temperature control device, which can automatically and accurately cool all bearings, gears and other mechanisms inside of the spindle to effectively reduce thermal deformation and ensure processing accuracy.

**Precision Gear Transmission Headstock**

Two-speed transmission, independently developed by Neway

The closed headstock structure design provides a high rigid foundation for heavy cutting.

## Rotary Worktable

High precision, large load capacity, multiple optional sizes

- High-quality cast iron HT300
- Secondary aging treatment stable accuracy
- Optimized design through finite element to ensure high rigidity
- Streamlined design without redundant structure

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Worktable | Worktable Options | | | | | | |
| | worktable size (mm) | 1400×1600 | 1600×1800 | 2000×2000 | 2000×2500 | 2000×2000 | |
| | Max. loading (T) | 8 | 15 | | | 20 | |
| | X axis travel (mm) | 2500 | 3000 | | | 3000 | 4000 |
| Type | PB110H | standard | optional | optional | optional | optional | optional |
| | PB130H | optional | standard | optional | optional | optional | optional |

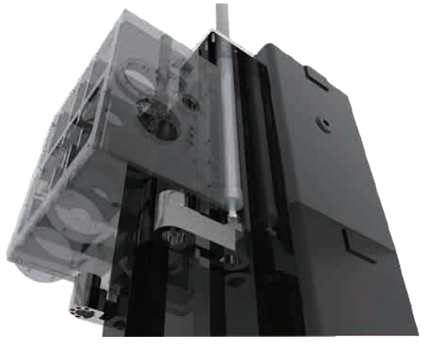
## High Rigid Bed

- Three-axis mobile full-stroke support to ensure long-term accuracy;
- The three-axis guide rails are designed with high rigidity, which greatly improves the rigidity and heavy cutting ability;
- Large contact surface, large span, higher rigidity and stability.

Precise High Rigidity Inlaid Steel Guide Way

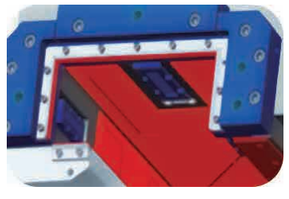
## Double-cylinder Nitrogen Oil Mixed Counter Balance Structure

PB110H / HB110H / HB110U adopts double cylinder nitrogen oil mixed counter balance structure.This balance system uses the principle of accumulator to balance the weight of the headstock by gas pushing oil. No external power equipment is needed. Fast response, no noise, can improve the quality of parts processing. Compared with air pressure counter balance system, the nitrogen liquid counter balance system has the advantages of high accuracy, high stability, energy saving, noise reduction and environmental protection. The double balance cylinder structure has double balance points, which effectively improves sagging, and has higher accuracy and stability.



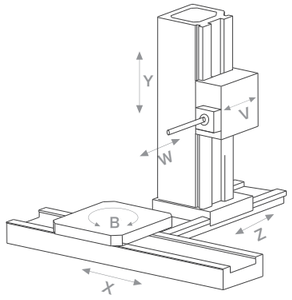
## Box and Linear Composite Guide Way

- The slide blocks are in contact with the box guide way and linear way surface. At the same time, having the both advantages of high rigidity and smooth travel, effectively avoiding the defects of crawling and shaking.



# PB130R / PB160R

- This series is a new generation of square ram type CNC planing table horizontal milling and boring machine, with planing table layout and side hung spindle box structure. The machine is with six-axis, any four-axis interpolation, with the ability of rough and fine machining.
- Complete various processes by one clamping, suitable for big parts' milling, boring, drilling, reaming, tapping, turning, high precision both-head boring, etc.
- With excellent processing performance, this machine is the preferred processing equipment for the energy, marine, civil aviation, engineering machinery, mining equipment and other industries.

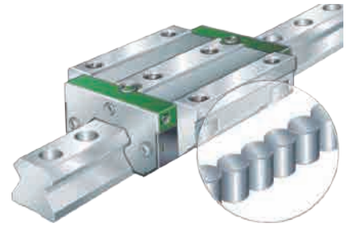



- Horizontal movement of worktable —— X axis
- Up & down movement of headstock —— Y axis
- Longitudinal movement of column —— Z axis
- Axial movement of ram - V axis
- Axial movement of boring shaft—— W axis
- Rotary motion of worktable —— B axis
- Two-layer spindle structure, the boring shaft rotates with the milling spindle —— SP axis




## High Precision Boring & Milling Shaft System

- Ram is made from QT600-3 high quality nodular cast iron.
- High precision boring and milling shaft system, milling shaft supporting size is 2 times of boring shaft travel span to ensure and maintain excellent cutting rigidity when the boring shaft extend outside completely.
- Advanced ram compensation technology.
- Spindle air curtain seal protection.



## Heavy Duty Roller Linear Guideway

Linear axis adopts imported heavy loading roller linear guide way, greatly improved all axis travel speed and acceleration speed, realize excellent dynamic performance and higher cutting efficiency.

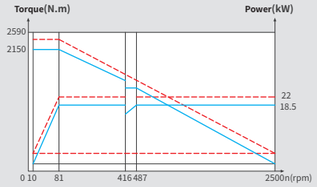
## Main Drive System

The main drive system adopts ZF two-stage gearbox with high stability and low noise. Maximum speed of PB130R spindle is 3000rpm; Maximum speed of PB160R spindle is 2500rpm.

## Spindle Power Torque Diagram

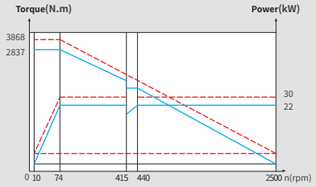
### PB110H

αilP40/6000



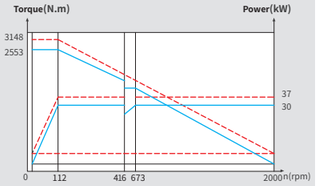

### PB130H

αilP50/6000



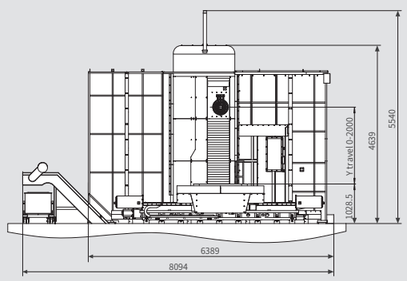

### PB160H

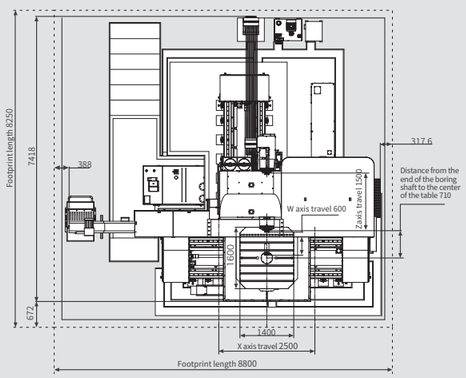
αil 30/6000



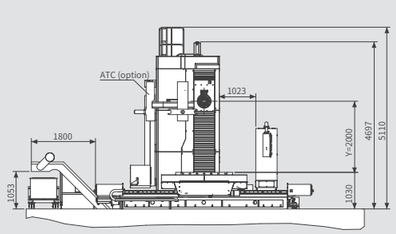

## External Dimensions

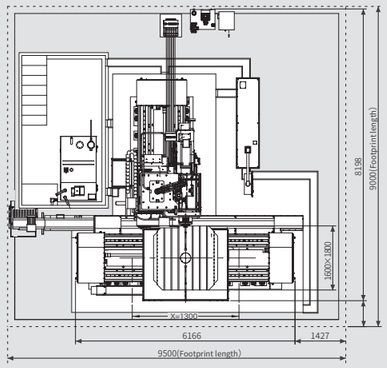
### PB110H




### PB130H/160H

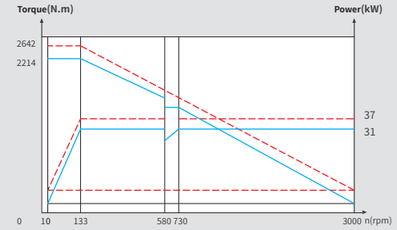



## Spindle Power Torque Diagram

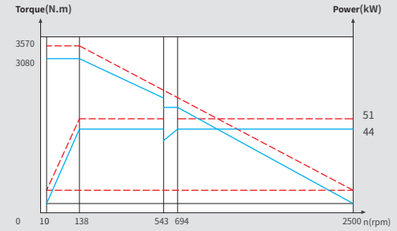
### PB130R

1PH8165-1DD13-1DA1



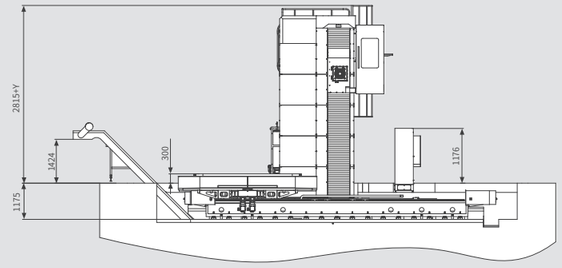

### PB160R

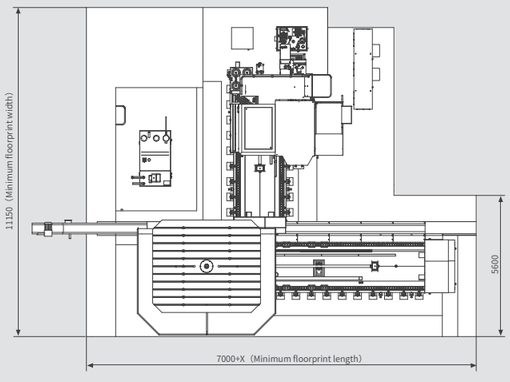
1PH8184-1DD13-1DA1




## External Dimensions

### PB130R / PB160R



| Item | | Unit | PB110H | PB130H | PB160H |
|---|---|---|---|---|---|
| Worktabble | Worktable Size | mm | 1400×1600 | 1600×1800 [2000x2000] [2000x2500] | 2000x2000 [2000x2500] |
| | Max. Worktable loading | kg | 8000 | 15000 [25000] | 15000 [25000] |
| | T slot width | mm | 28 | 28 | 28 |
| | Min. worktable indexing | - | 0.001° | 0.001° | 0.001° |
| | Max. worktable rotating speed | r/min | 1.5 | 2 | 2 |
| Woking capacity | Worktable travel X | mm | 2500 | 3000 [4000] | 3000 [4000] |
| | Spindle box travel Y | mm | 2000 | 2000 [2500] | 2000 [2500] [3000] |
| | Column travel Z | mm | 1500 | 1600 | 1600 |
| | Ram travel V | mm | / | / | / |
| | Boring shaft travel W | mm | 600 | 800 | 900 |
| | Workable rotary travel B | ° | 360 | 360 | 360 |
| Travel | Rapid travel speed (X/Y/Z/V/W/U) | m/min | 10/10/10/-/4/- | 10/10/10/-/4/- | 10/10/10/-/4/- |
| | Max. cutting feed speed (X/Y/Z/V/W/U) | m/min | 6/6/6/-/2/- | 6/6/6/-/2/- | 6/6/6/-/2/- |
| Spindle | Spindle center line to woktable | mm | 0-2000 | 0-2000 | 0-2000 |
| | Spindle terminal to center line of worktable | mm | 100-2200 | 100-2500 | -150～2350 |
| | Boring shaft dia. | mm | Φ110 | Φ130 | Φ160 |
| | Milling spindle end dia. | mm | Φ221.44 | Φ221.44 | Φ260 |
| | Spindle taper | - | BT50 | BT50 | BT50 |
| | Pull stud size | - | P50T-1 | P50T-1 | P50T-1 |
| | Motor power | kW | 18.5/22 | 22/30 | 30/37 [45/55] |
| | Spindle speed | rpm | 10-2500 | 10-2500 | 10-2000 |
| | Max. milling spindle torque | N.m | 2150/2590 | 2837/3868 | 2553/3063[3831/4597] |
| | Max. boring shaft tensile | N | 15000 | 25000 | 25000 |
| Magazine | ATC (option) | - | [40(chian type)/60(chian type)] | [40(chian type)] | [40(chian type)] |
| | Tool size | - | MAS403 BT50 | MAS403 BT50 | MAS403 BT50 |
| | Max tool dia/length/weight | mm/mm/kg | Φ125/400/25 | Φ125/400/25 | Φ125/400/25 |
| | Max tool diameter (empty neighbor cell) | mm | Φ250 | Φ250 | Φ250 |
| Machine accuracy | Min. setting unit | mm | 0.001 | 0.001 | 0.001 |
| | Positioning accuracy (X/Y/Z/V) | mm | 0.025/0.02/0.02/- | 0.025/0.02/0.02/- | 0.025/0.02/0.02/- |
| | Positioning accuracy (W) | mm | 0.025 | 0.025 | 0.025 |
| | Positioning accuracy (B) | - | 10" | 10" | 10" |
| | Repositioning accuracy (X/Y/Z/V) | mm | 0.017/0.015/0.015/- | 0.017/0.015/0.015/- | 0.017/0.015/0.015/- |
| | Repositioning accuracy (W) | mm | 0.018 | 0.018 | 0.018 |
| | Repositioning accuracy (B) | - | 6" | 6" | 6" |
| Other | CNC system | - | NEWAY FANUC [SIEMENS] | | |
| | CNC coordinate axis number | - | Total 5 axis, 4 axis interpolation | | |
| | Auto chip conveyor (option) | - | Chain plate | Chain plate | Chain plate |
| | Machine power capacity | kVA | 80 | 80 | 95[110] |
| | Air source/pressure | - | 500L/min 6~8bar | 500L/min 6~8bar | 500L/min 6~8bar |
| | Machine weight | kg | 30000 | 40000 | 42000 |

**Standard configuration:** X/Y/Z axis linear scales, B-axis circular grating, spindle oil cooling, external cooling device, accessory trolley, water tray, operation platform.

**Optional configuration:** Tool magazine, tool internal cooling device (ie, cooling though spindle), boring shaft support sleeve, right-angle milling head, universal milling head, facing head, tool measurement, etc.

| Item | | Unit | PB130R | PB160R |
|---|---|---|---|---|
| Worktabble | Worktable Size | mm | 2000×2500 | 2500×3000[3000×3000] |
| | Max. Worktable loading | kg | 25000 | 40000 |
| | T slot width | mm | 28 | 28 |
| | Min. worktable indexing | | 0.001° | 0.001° |
| | Max. worktable rotating speed | r/min | 2 | 1.25 |
| Woking capacity | Worktable travel X | mm | 3000[4000] | 3000[4000][5000][6000] |
| | Spindle box travel Y | mm | 2000[2500][3000] | 3000[4000] |
| | Column travel Z | mm | 1500[2000] | 1500[2000] |
| | Ram travel V | mm | 1000 | 1000 |
| | Boring shaft travel W | mm | 800 | 800 |
| | Workable rotary travel B | ° | 360 (any angle) | 360 (any angle) |
| Travel | Rapid travel speed (X/Y/Z/V/W) | m/min | 10/10/10/10/10 | 10/10/10/10/10 |
| | Max. cutting feed speed (X/Y/Z/V/W) | m/min | 8/8/8/8/8 | 8/8/8/8/8 |
| Spindle | Boring shaft dia. | mm | 130 | 160 |
| | Milling spindle end dia. | mm | 221.44 | 260 |
| | Ram section size | mm | 450×450 | 450×450 |
| | Spindle taper | - | BT50 | BT50 |
| | Pull stud size | - | MAS403 BT50 | MAS403 BT50 |
| | Motor power | kW | 31/37 | 44/51 |
| | Spindle speed | rpm | 10-3000 | 10-2500 |
| | Max. milling spindle torque | Nm | 2214/2656 | 3080/3572 |
| | Max. boring shaft tensile | N | 25000 | 25000 |
| Magazine | ATC (option) | | [40(chain type)] [60(chain type)] | [40(chain type)] [600(chain type)] |
| | Tool size | | MAS403 BT50 | MAS403 BT50 |
| | Max tool dia/length/weight | mm/mm/kg | Φ125/400/25 | Φ125/400/25 |
| | Max tool diameter (empty neighbor cell) | mm | Φ250 | Φ250 |
| Machine accuracy | Min. setting unit | mm | 0.001 | 0.001 |
| | Positioning accuracy (X/Y/Z/V/W) | mm | 0.025/0.17/0.014/0.011/0.025 | 0.02/0.17/0.014/0.011/0.025 |
| | Repositioning accuracy (X/Y/Z/V/W) | mm | 0.017/0.009/0.007/0.007/0.018 | 0.012/0.009/0.007/0.007/0.018 |
| | Positioning accuracy (B) | ” | 10 | 10 |
| | Repositioning accuracy (B) | ” | 6 | 6 |
| Other | CNC system | - | SIEMENS | SIEMENS |
| | CNC coordinate axis number | - | Total 6 axis, 4 axis interpolation | Total 6 axis, 4 axis interpolation |
| | Auto chip conveyor (option) | - | Chain plate | Chain plate |
| | Machine power capacity | kVA | 90 | 103 |
| | Air source/pressure | - | 500L/min 6~8bar | 500L/min 6~8bar |
| | Machine weight | kg | 55000 | 65000 |

**Standard configuration:** X/Y/Z axis linear scales, B-axis circular grating, spindle oil cooling, external cooling device, accessory trolley, water tray, operation platform.

**Optional configuration:** Tool magazine, tool internal cooling device (ie, cooling though spindle), boring shaft support sleeve, right-angle milling head, universal milling head, facing head, tool measurement, etc.

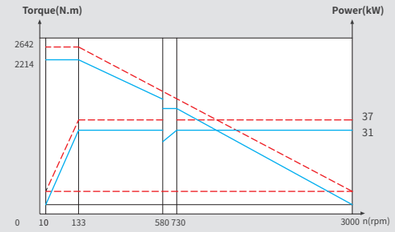
# FB Series -
# CNC Floor Milling and Boring Machine

- This series is a new generation of CNC floor milling and boring machine with floor layout, spindle box side hung structure, six-axis CNC, any four axis interpolation, with the ability of rough and finish machining.
- Complete a variety of processes by one clamping, suitable for big parts' milling, boring, drilling, reaming, tapping, turning, high precision both-heads boring, etc.
- With its excellent processing performance, this machine is the preferred processing equipment for the energy, marine, civil aviation, engineering machinery, mining equipment and other industries.


## Spindle Power Torque Diagram

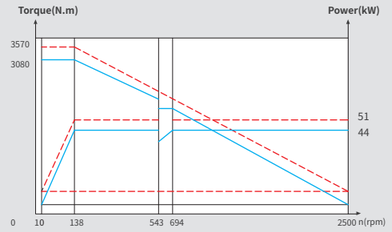
### FB130HC

1PH8165-1DD13-1DA1



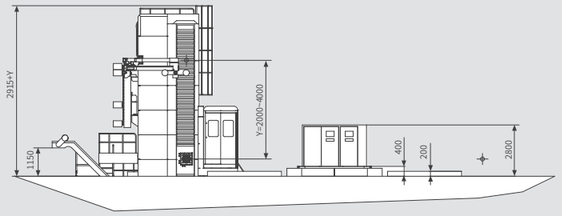

### FB160HC

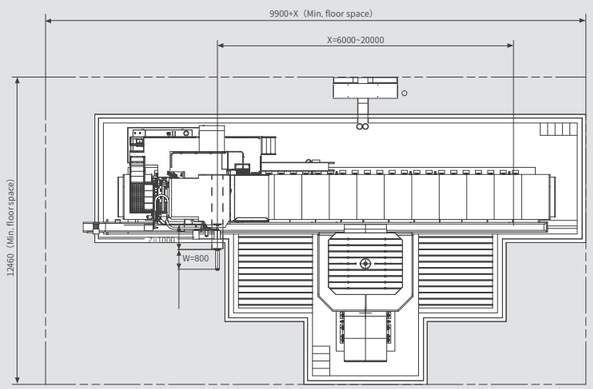
1PH8184-1DD13-1DA1




## External Dimensions

### FB130HC / FB160HC



| Item | | Unit | FB130P | FB160P |
|---|---|---|---|---|
| Worktable | Worktable Size | mm | 2000×2000[2000×2500] | 2500×3000[3000×3000] |
| | Max. worktable loading | kg | [25000] | [40000] |
| | T slot width | mm | 28 | 28 |
| | Min. worktable indexing | | 0.001° | 0.001° |
| | Workable travel V | mm | 2000 | 2000 |
| | Workable rotating travel B | | 360° | 360° |
| | Rapid travel speed V | m/min | 10 | 10 |
| | Rapid travel speed B | rpm | 1.5 | 1.25 |
| Woking capacity | Column travel X | mm | 6000[It can increase 1000 by 1000] | 6000[It can increase 1000 by 1000] |
| | Spindle box travel Y | mm | 2000[2500] | 2000[2500][3000] |
| | Boring shaft travel W | mm | 800 | 900 |
| Travel | Rapid travel speed X/Y/W | m/min | 10/10/6 | 10/10/6 |
| | Max. cutting feed speed X/Y/W | m/min | 6/6/2 | 6/6/2 |
| Spindle | Boring shaft dia. | mm | 130 | 160 |
| | Milling spindle end dia. | mm | 221.44 | 260 |
| | Spindle taper | - | BT50 | BT50 |
| | Pull stud size | - | MAS403 P50T-I | MAS403 P50T-I |
| | Motor power | kW | 22/30 | 30/37[45/55] |
| | Spindle speed | rpm | 10-2500 | 10-2000 |
| | Max. milling spindle torque | N.m | 2837/3868 | 2553/3063[3831/4597] |
| | Max. boring shaft tensile | N | 25000 | 25000 |
| Magazine | ATC (option) | - | [40 (chain type)] [60 (chain type)] | [40 (chain type)] [60 (chain type)] |
| | Tool size | - | MAS403 BT50 | MAS403 BT50 |
| | Max. tool dia/length/weight | mm/mm/kg | Φ125/400/25 | Φ125/400/25 |
| | Max. tool diameter (empty neighbor cell) | mm | Φ250 | Φ250 |
| Machine accuracy | Positioning accuracy X/Y/W/V | mm | 0.04/0.02/0.025/0.02 | 0.04/0.02/0.025/0.02 |
| | Repositioning accuracy X/Y/W/V | mm | 0.023/0.015/0.018/0.015 | 0.023/0.015/0.018/0.015 |
| | Positioning accuracy B | ” | 10 | 10 |
| | Repositioning accuracy B | ” | 6 | 6 |
| Other | CNC system | - | NEWAY FANUC [SIEMENS] | NEWAY FANUC [SIEMENS] |
| | CNC coordinate axis number | - | Total 5 axis, four axis interpolation [rotary table is option] | |
| | Auto chip conveyor (option) | - | Chain plate | Chain plate |
| | Machine power capacity | kVA | 80 | 80 |
| | Air source/pressure | - | 500L/min 6~8bar | 500L/min 6~8bar |
| | Machine weight | kg | 45000 | 45000 |

**Standard configuration:** X/Y/Z axis linear scales, spindle oil cooling, external cooling device, accessory trolley, operation platform.

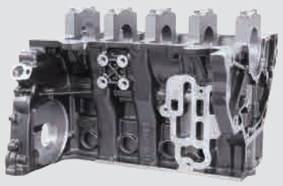
**Optional configuration:**
Tool magazine, rotary table, fixed platform, tool internal cooling device (ie, cooling though spindle), boring shaft support sleeve, right-angle milling head, universal milling head, facing head, tool measurement, etc.

| Item | | Unit | FB130HC | FB160HC |
|---|---|---|---|---|
| Worktable | Worktable Size | mm | 2000×2000 [2000×2500] | 2500×3000[3000×3000] |
| | Max. worktable loading | kg | [25000] | [40000] |
| | T slot width | mm | 28 | 28 |
| | Min. worktable indexing | - | 0.001° | 0.001° |
| | Workable travel V | - | 2000[3000] | 2000[3000] |
| | Workable rotating travel B | - | 360° | 360° |
| Woking capacity | Rapid travel speed V | m/min | 10 | 10 |
| | Rapid travel speed B | rpm | 1.5 | 1.25 |
| | Column travel X | mm | 6000[It can increase 1000 by 1000] | 8000[It can increase 1000 by 1000] |
| | Spindle box travel Y | mm | 2000[2500][3000] | 3000[4000] |
| | Ram travel Z | mm | 1000 | 1000 |
| Travel | Boring shaft travel W | mm | 800 | 800 |
| | Rapid travel speed X/Y/W | m/min | 10/10/10/10 | 10/10/10/10 |
| Spindle | Max. cutting feed speed X/Y/W | m/min | 8/8/8/8 | 8/8/8/8 |
| | Boring shaft dia. | mm | 130 | 160 |
| | Milling spindle end dia. | mm | 221.44 | 260 |
| | Ram section size | mm | 450×450 | 450×450 |
| | Spindle taper | - | BT50 | BT50 |
| | Pull stud size | - | MAS403 P50T-I | MAS403 P50T-I |
| | Motor power | kW | 31/37 | 44/51 |
| | Spindle speed | rpm | 10-3000 | 10-2500 |
| | Max. milling shaft torque | N.m | 2214/2656 | 3080/3572 |
| | Max. boring shaft tensile | N | 25000 | 25000 |
| Magazine | ATC (option) | - | [40 (chain type)] [60 (chain type)] | [40 (chain type)] [60 (chain type)] |
| | Tool size | - | MAS403 BT50 | MAS403 BT50 |
| | Max. tool dia/length/weight | mm/mm/kg | Φ125/400/25 | Φ125/400/25 |
| | Max. tool diameter (empty neighbor cell) | mm | Φ250 | Φ250 |
| Machine accuracy | Positioning accuracy X/Y/W/V | mm | 0.026/0.014/0.011/0.025/0.02 | 0.032/0.017/0.011/0.025/0.014 |
| | Repositioning accuracy X/Y/W/V | mm | 0.015/0.007/0.007/0.018/0.015 | 0.019/0.009/0.007/0.018/0.007 |
| | Positioning accuracy B | ” | 10 | 10 |
| | Repositioning accuracy B | ” | 6 | 6 |
| Other | CNC system | - | SIEMENS | SIEMENS |
| | CNC coordinate axis number | - | Total 6 axis, four axis interpolation [rotary table] | |
| | Auto chip conveyor (option) | - | Chain plate | Chain plate |
| | Machine power capacity | kVA | 90 | 103 |
| | Air source/pressure | - | 500L/min 6~8bar | 500L/min 6~8bar |
| | Machine weight | kg | 55000 | 65000 |

**Standard configuration:** X/Y/Z axis linear scales, spindle oil cooling, external cooling device, accessory trolley, operation platform.

**Optional configuration:**
Tool magazine, rotary table, fixed platform, tool internal cooling device (ie, cooling though spindle), boring shaft support sleeve, right-angle milling head, universal milling head, facing head, tool measurement, etc.

# Applications



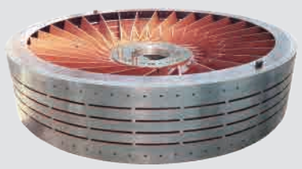
Box part

Connection seat

Support seat

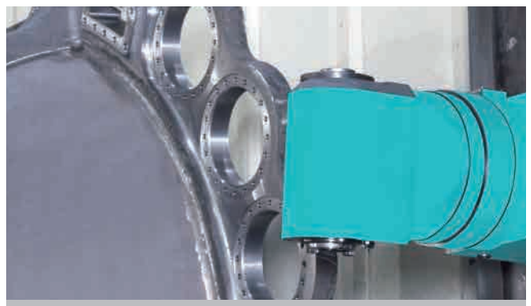
Reducer box

Valve body



Rotor

Large Housing



Large Cylinder

# Humanized Design

01

02

03

04

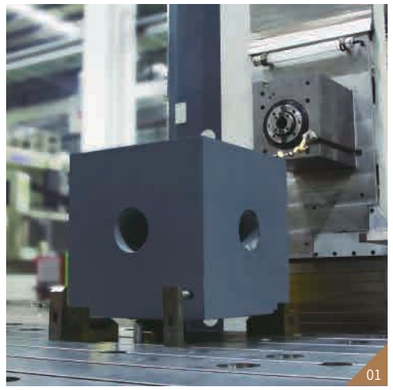
01 Semi-protection cover in the operation room:
It is safe and comfortable to prevent the iron chips from splashing and easy to clean.

02 Safety climbing ladder:
easy for machine maintenance.

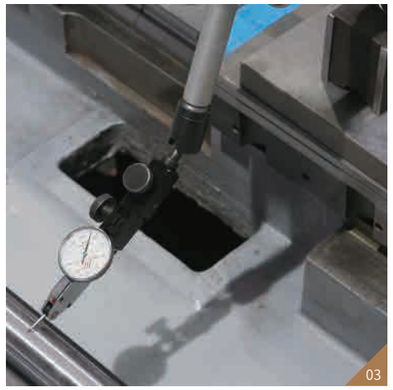
03 Ladder for loading and unloading workpieces:
convenient for loading and unloading, safe and reliable.

04 Rotatable operation panel:
can be rotated to the best position for smoother operation.

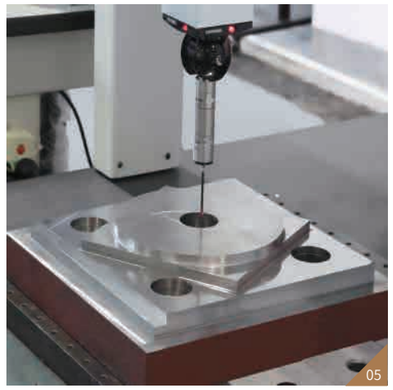
# Manufacturing and Inspection


01


02


03


04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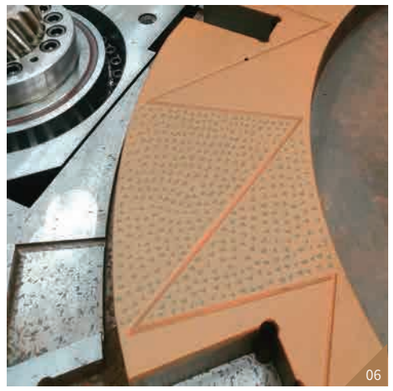
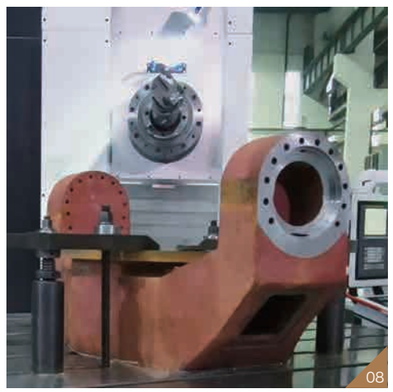

06


07


08

01 Geometric accuracy detection

02 Laser interferometer accuracy test

03 Parallelism detection

04 Three-coordinate detection

05 Precision cutting test

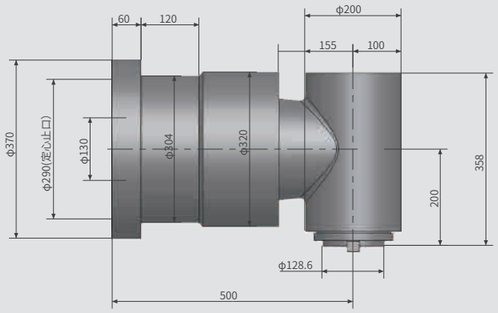
06 Scraping

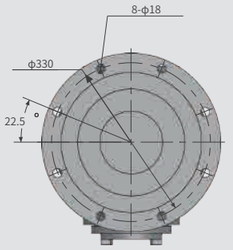
07 Heavy cutting test

08 Precision machining test

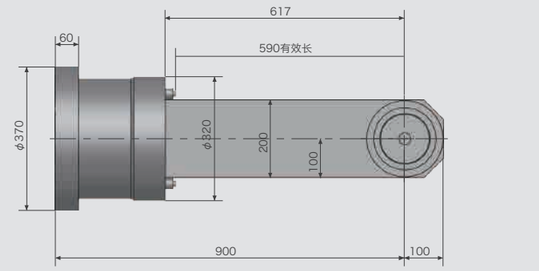
# Milling Head (optional)

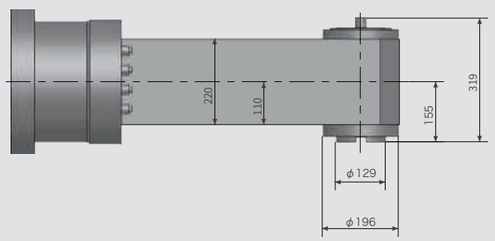
## Right angle milling head FXT1-P18

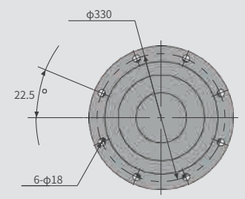



## Extention angular milling head FXT7-P37

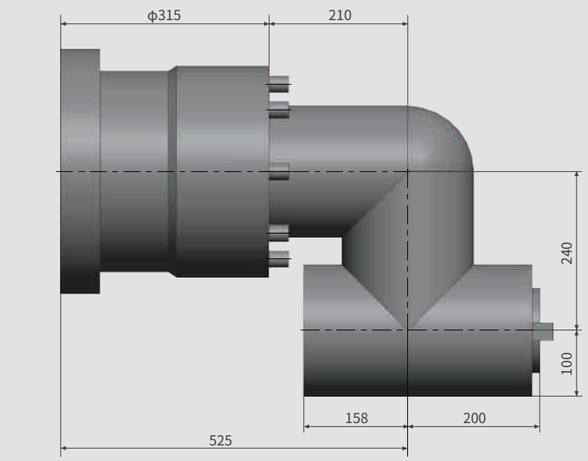


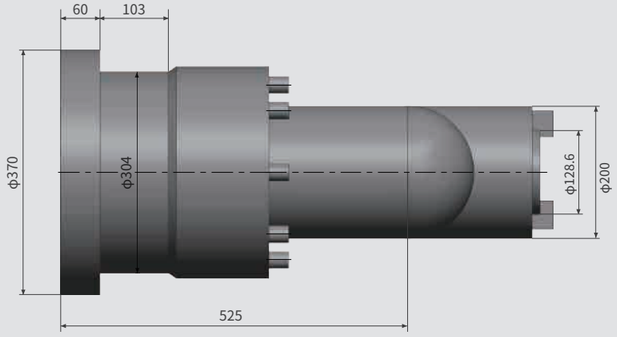



# Milling Head(optional)

## Universal milling head FXT5-P28



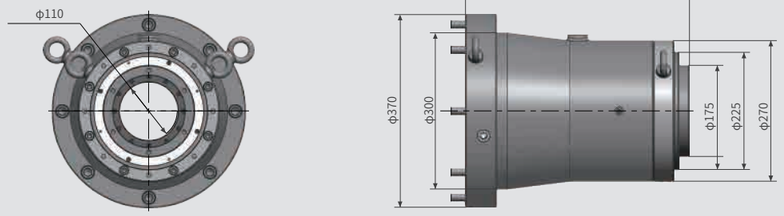

## Milling head specification

| Milling head model | FXT1-P18 | FXT7-P37 | FXT2-P18 |
|---|---|---|---|
| Transmission ratio | 1:1 | 1:1 | 1:1 |
| Speed (rpm) | 2000 | 1000 | 1000 |
| Torque (Nm) | 1000 | 1000 | 1000 |
| Power (kW) | 18 | 22 | 18 |
| Tool interface | BT 50 | BT 50 | BT 50 |
| A-axis rotation | / | / | Manual swing (turbine worm) |
| C-axis rotation | Manual swing (turbine worm) | | Manual swing (turbine worm) |
| Tool draw | Manual | Manual | Manual |
| Milling head assembly | Manual | Manual | Manual |
| PB110H | Option | Option | Option |
| PB130H | Option | Option | Option |
| HB110H | Option | Option | Option |
| ... | ... | ... | ... |

Note: Material No. 20206626 for FXT1-P18, Material No. 20201540 for FXT1-P37

# Spindle Support Sleeve (optional)

**HB110H5250**




**PB130H5250**




| Spindle support sleeve specification | | |
|---|---|---|
| Spindle support sleeve model | HB110H5250 | PB130H5250 |
| Boring shaft hole diameter ( ¢ mm) | 110 | 130 |
| Support sleeve stroke length (mm) | 400 | 490 |
| Speed (rpm) | 3000 | 2500 |
| Spindle support sleeve installation | Manual | Manual |
| PB110H | Option | Option |
| PB130H | Option | Option |
| HB110H | Option | Option |

# Facing Head (optional)

## CNC Facing Head

| Neway' s facing head selection configuration | | | |
|---|---|---|---|
| Model | NWM-FH50-01 | NWM-FH63-01 | Note |
| Diameter ΦD（mm） | 500 | 630 | |
| Length L | 531 | 531 | Recommended |
| Turning tool radius R1 | 360 | 425 | |
| Transmission ratio of spindle stroke and block movement | 1:2 | 1:2 | |
| Max. speed（rpm） | 200 | 150 | |
| Block travel U axis（mm） | 130 | 200 | |
| Feeding rate（mm/min） | 1-400 | 1-400 | |
| Max. working dia（mm） | 800 | 1000 | |
| Tool holder qty | 2 | 2 | |
| Weight（kg） | 272 | 305 | |
| PB110H | Option | | |
| PB130H | Option | Option | |
| HB110H | Option | | |

Facing head designed and made by Neway




Originally imported CNC facing head, which can be used to clamp standard tools or special tools to complete single and composite processing.

Can be equipped with coolant system to extend tool life, improve cutting speed and ensure surface processing quality.


Counter balance as option, self-balancing, can realize high-speed processing without obvious vibration.

# Tool Magazine (optional)

Floor-type chain magazine

Imported ATC with reliable quality and stable performance. The different tool magazines can be selected according to customers' needs.

| | | | | | | |
|---|---|---|---|---|---|---|
| ATC specification | Number of tools | 24 | 40 | 60 | 80 | 120 |
| | Tool holder type | MAS403 BT50 | | | | |
| | Pull stud type | MAS403 P50T-1 | | | | |
| | Max. tool diameter/length/weight | Φ125/400/25 | | | | |
| | Max. tool diameter (no adjacent tool) | Φ250 | | | | |
| Machine Model | PB110H | Option | Option | Option | / | / |
| | PB130H | / | Option | Option | Option | Option |

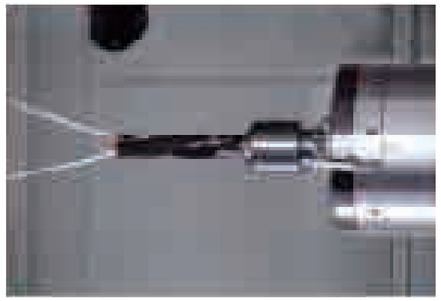
Floor-type chain magazine

| | | | | | | |
|---|---|---|---|---|---|---|
| ATC specification | Number of tools | 24 | 40 | 60 | 80 | 120 |
| | Tool holder type | MAS403 BT50 | | | | |
| | Pull stud type | MAS403 P50T-1 | | | | |
| | Max. tool diameter/length/weight | Φ125/400/25 | | | | |
| | Max. tool diameter (no adjacent tool) | Φ250 | | | | |
| Machine Model | HB110H | Option | Option | / | / | / |
| | HB110U | Option | Option | / | / | / |

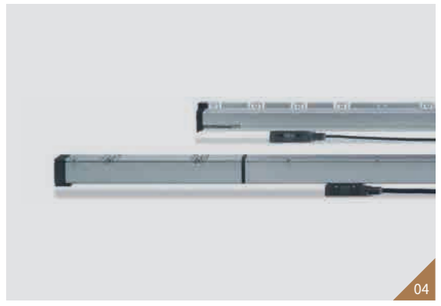
# Other Options


01


02




03


04


05

01 Deep hole boring bar
02 Tool breakage detection device
03 Cooling through spindle
04 Linear scale
05 Chip conveyor