

# BF-T6

HIGH PRECISION MACHINERY MANUFACTURER



**QUALITY COMES FROM CONFIGURATION, SERVICE COMES FROM HEART**

HONGKONG BAOFENG PRECISION MACHINERY CO.,LTD.  
DONGGUAN BAOKE PRECISION MACHINERY CO.,LTD.  
HUBEI BAOKE INTELLIGENT EQUIPMENT CO.,LTD.

☎ 0769-85633926  
0769-82787859

✉ info@baofengmachine.com  
🌐 <http://www.baofengmachine.com/>

📍 Hongkong: Room B1, 2/F, Mei Hing Industrial Building, 16-18 Hing Yip Street, Kwun Tong, Kowloon, Hong Kong.  
Production base 1: No.63, XinMaLian Xintai road, Dalang Town, DongGuan, China.  
Production base 2: No.8, CaiBian South Second street, Dalang Town, DongGuan, China.  
Production base 3: East Optics Valley High-end Tool and Mold Industrial Zone, Optics Valley Avenue No.1, Tieshan District, Huangshi, Hubei, China.

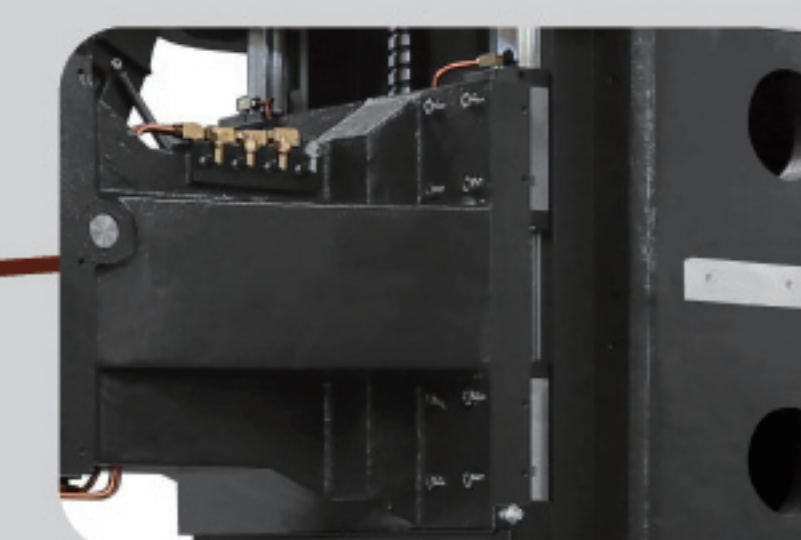
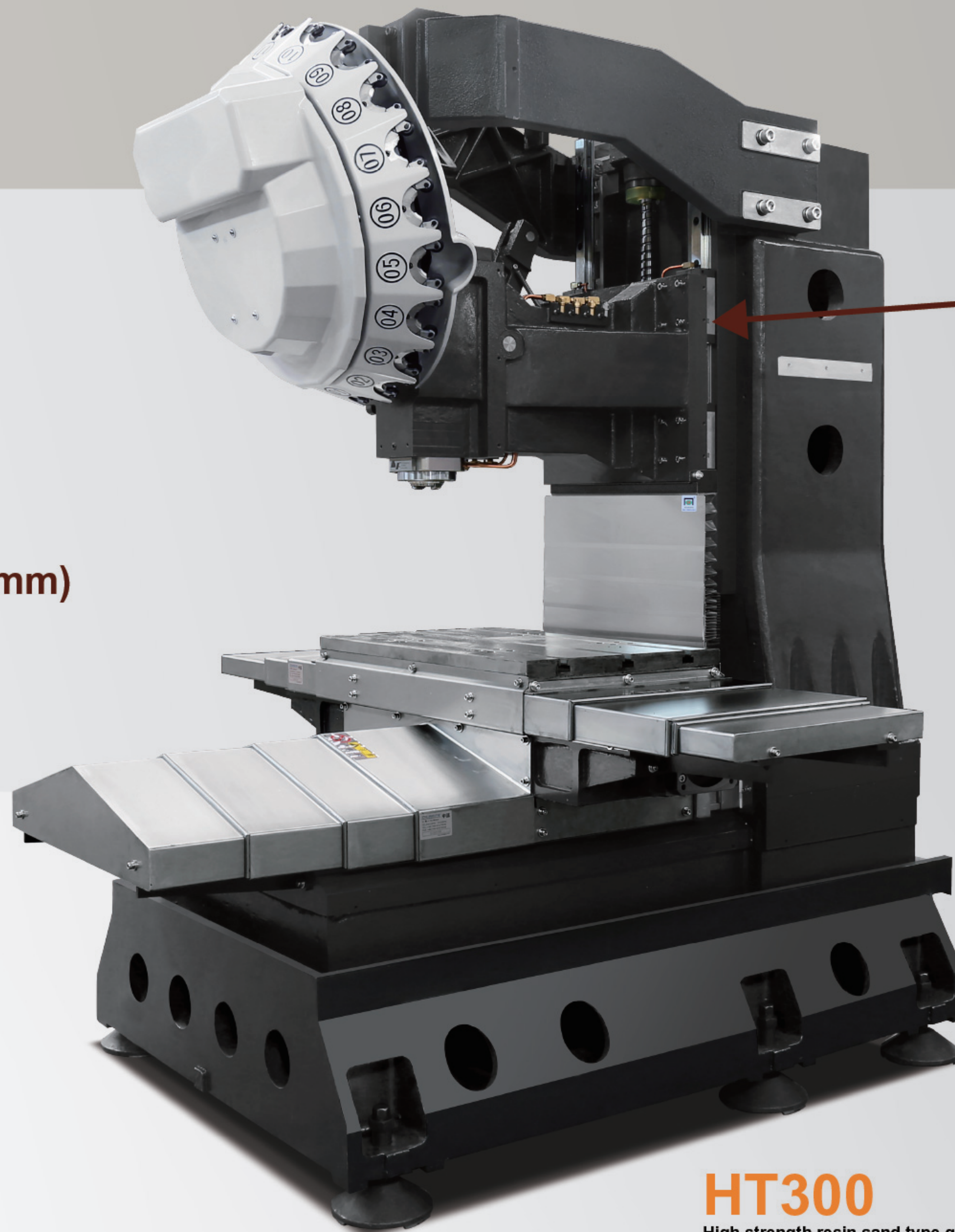
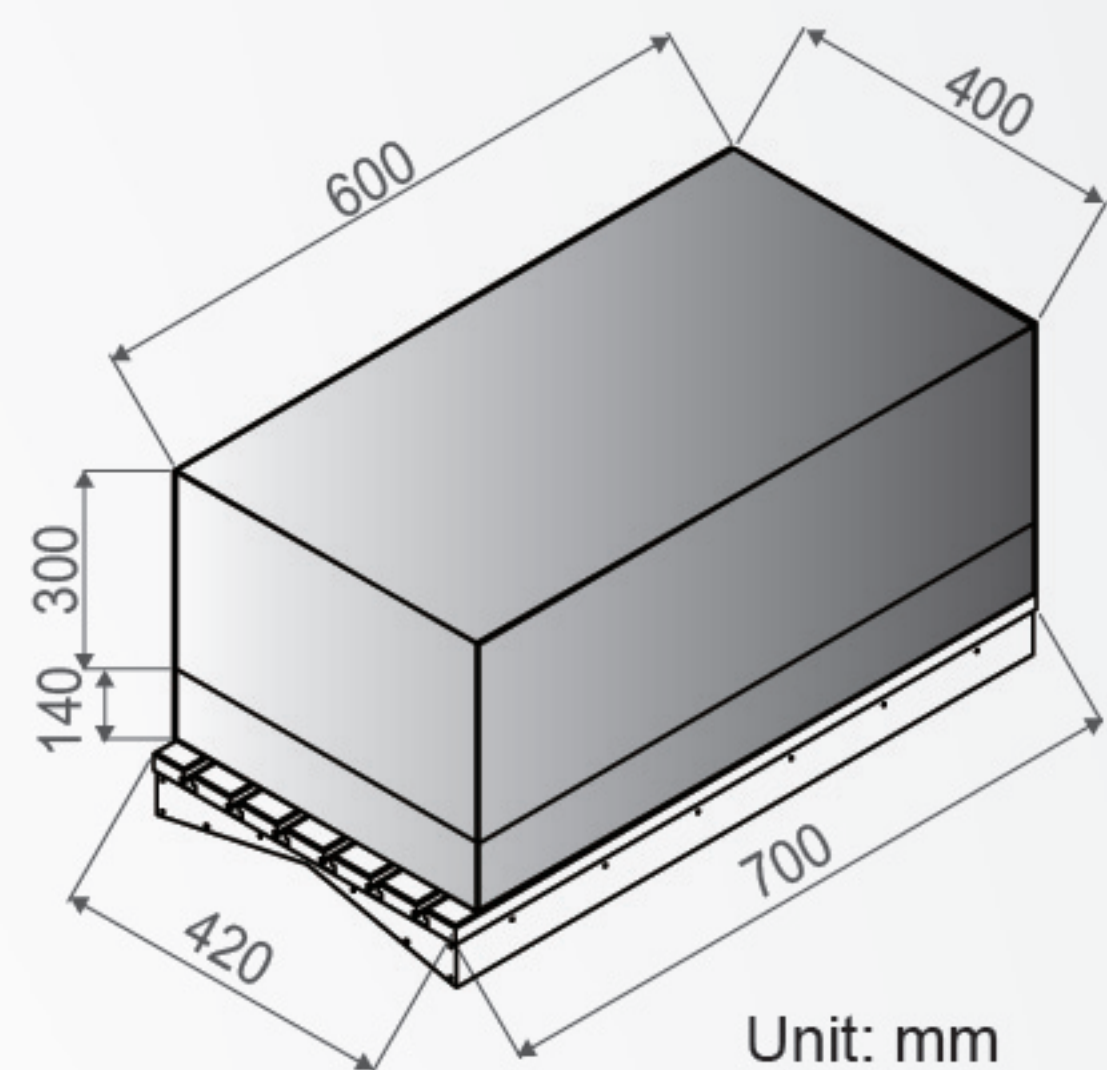
**DONGGUAN BAOKE PRECISION MACHINERY CO.,LTD.**

## Feed & Travels

**48/48/48**      **600/400/300**  
X/Y/Z (m/min)    X/Y/Z (mm)

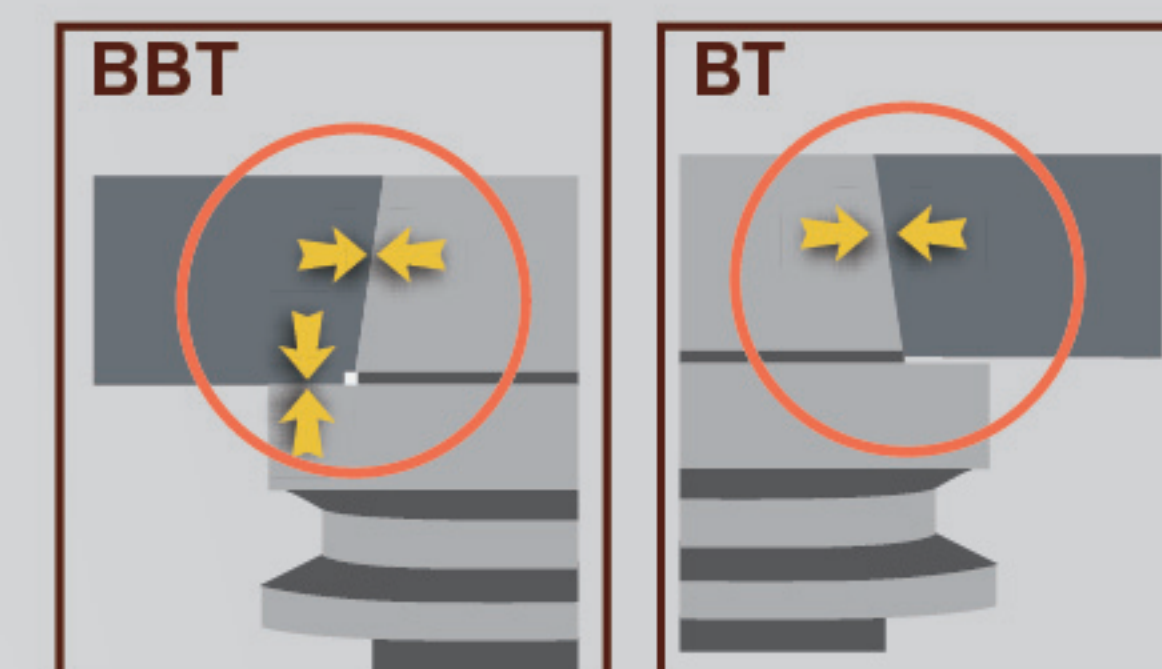
**21**  
Tools

Linear guideway width X/Y/Z(mm)  
**30/30/35**



**2 sliders**

Spindle nose to table  
**140-440mm**  
Max load on table  
**400KG**



**BAOFENG Big Plus spindle**

**HT300**

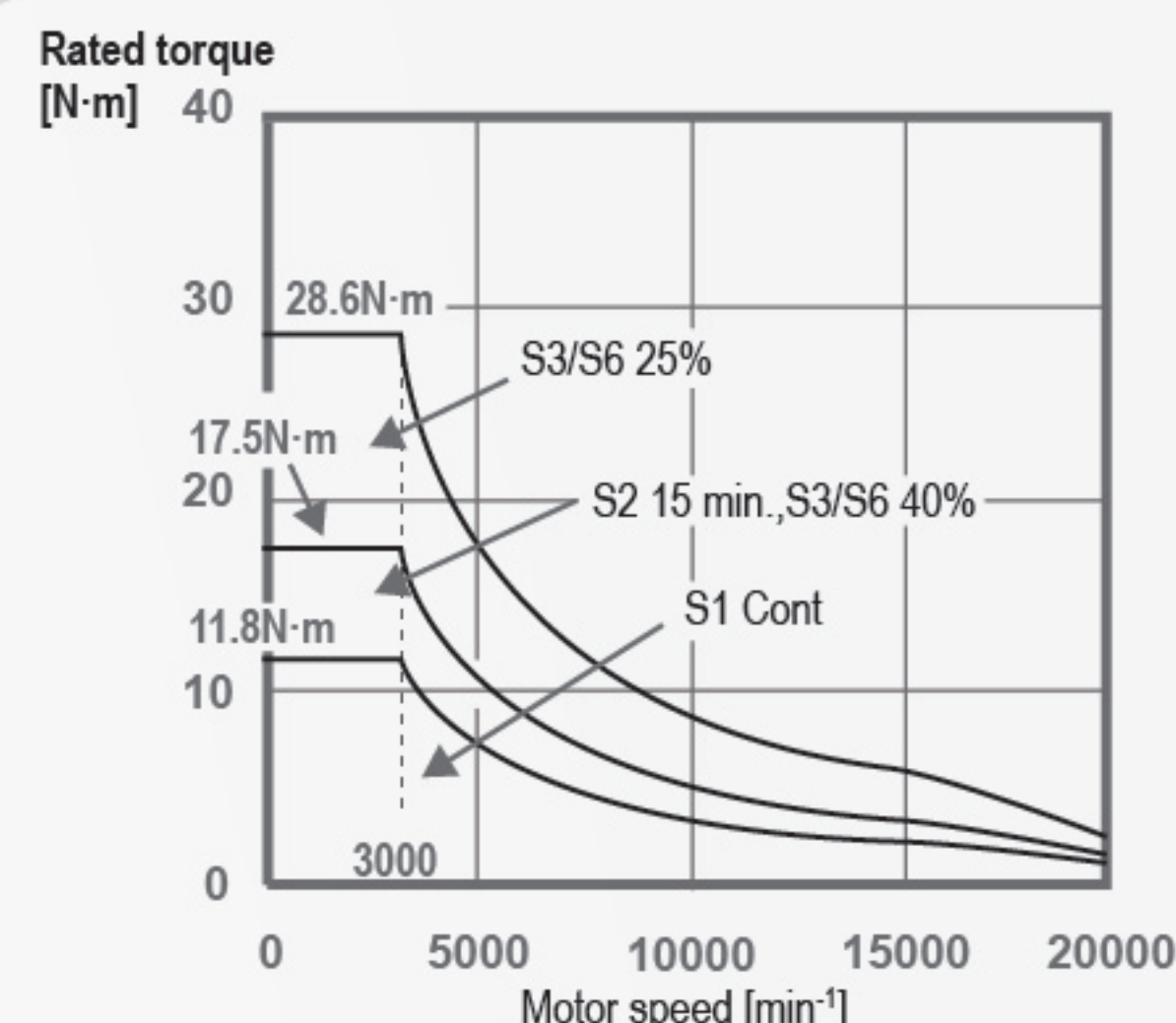
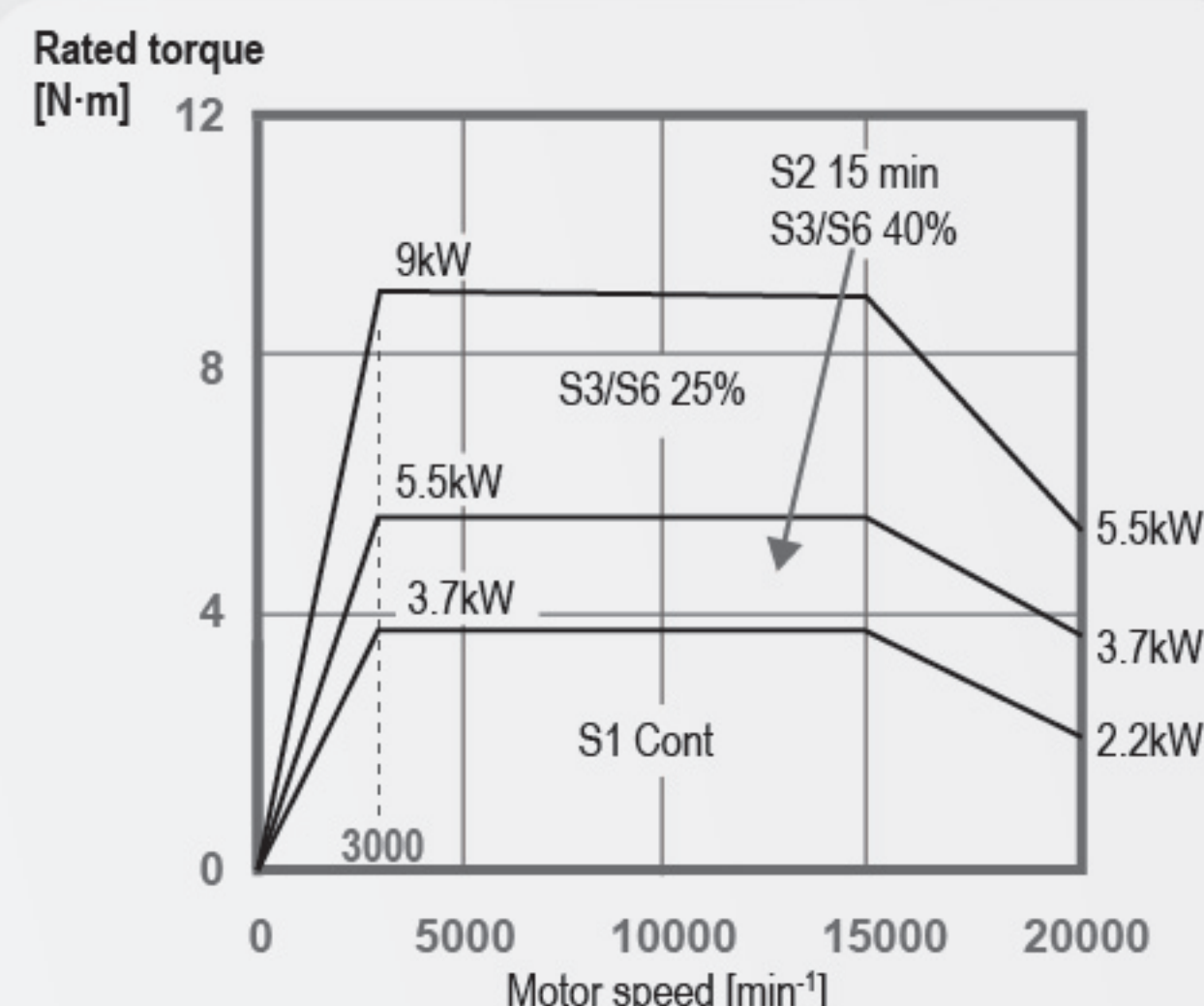
High strength resin sand type gray cast iron

## Fanuc

Spindle BT30 20000rpm

5.5KW/17.5NM(S2-15min S3/S6-40%)

α il2/20000-B

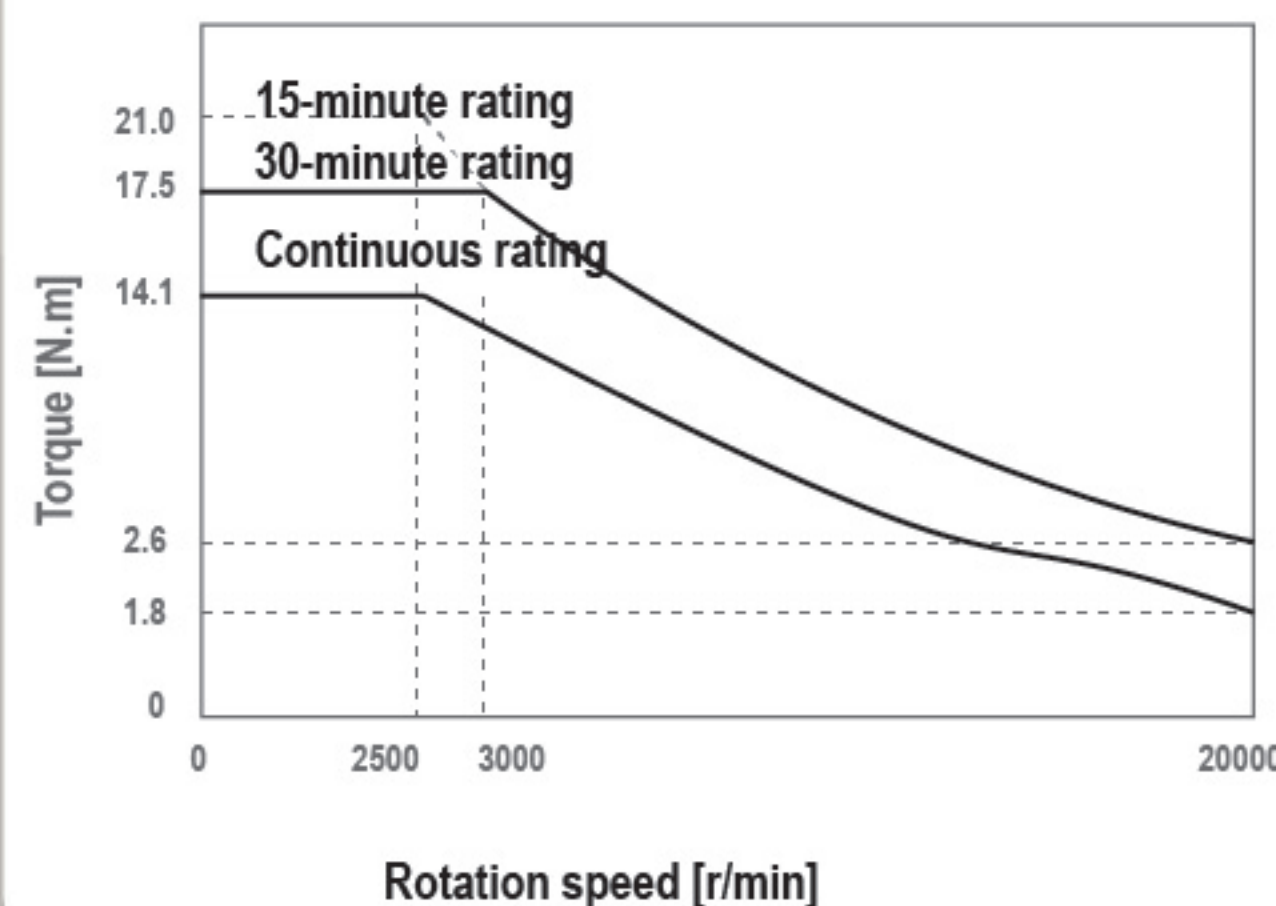
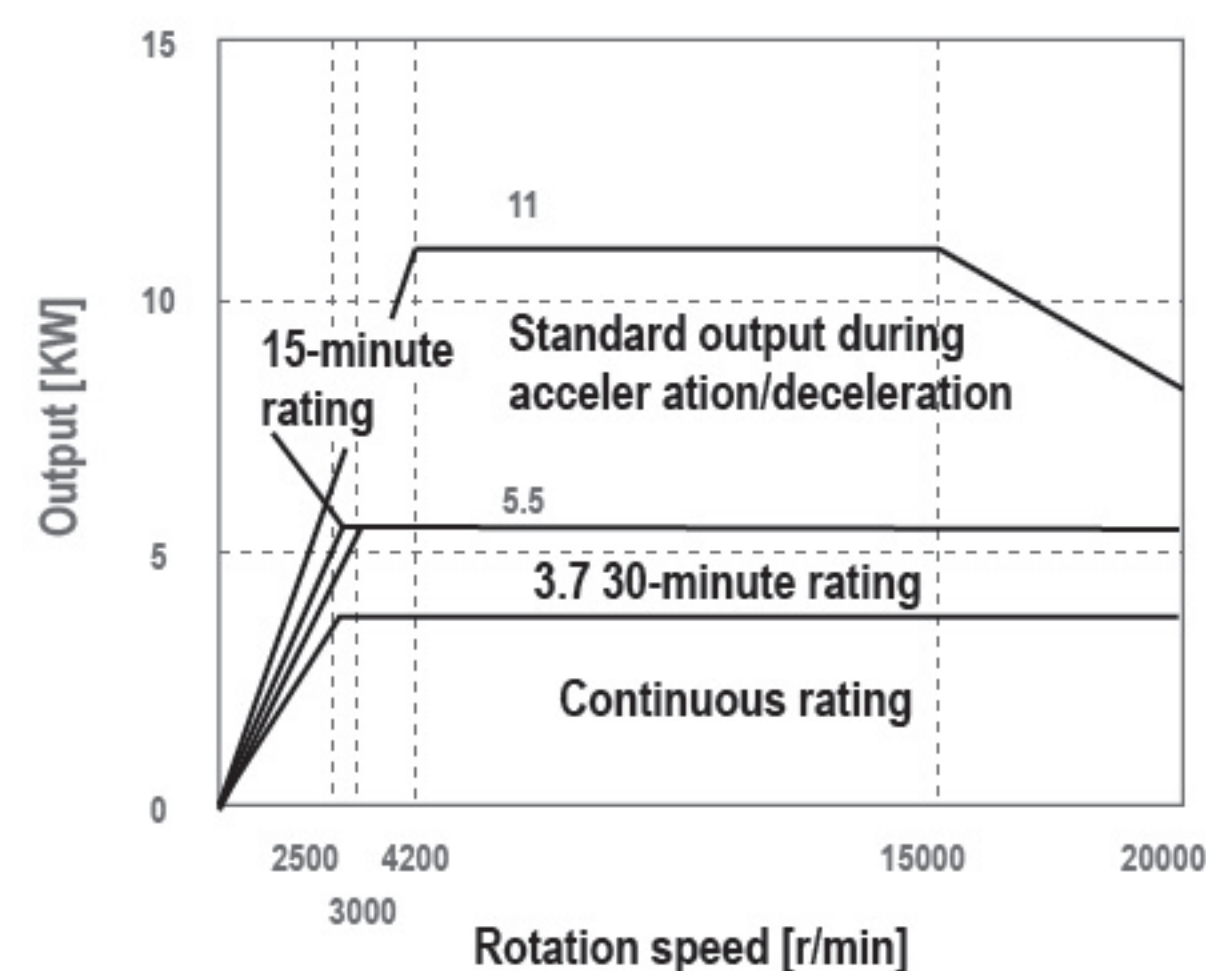


## Mitsubishi

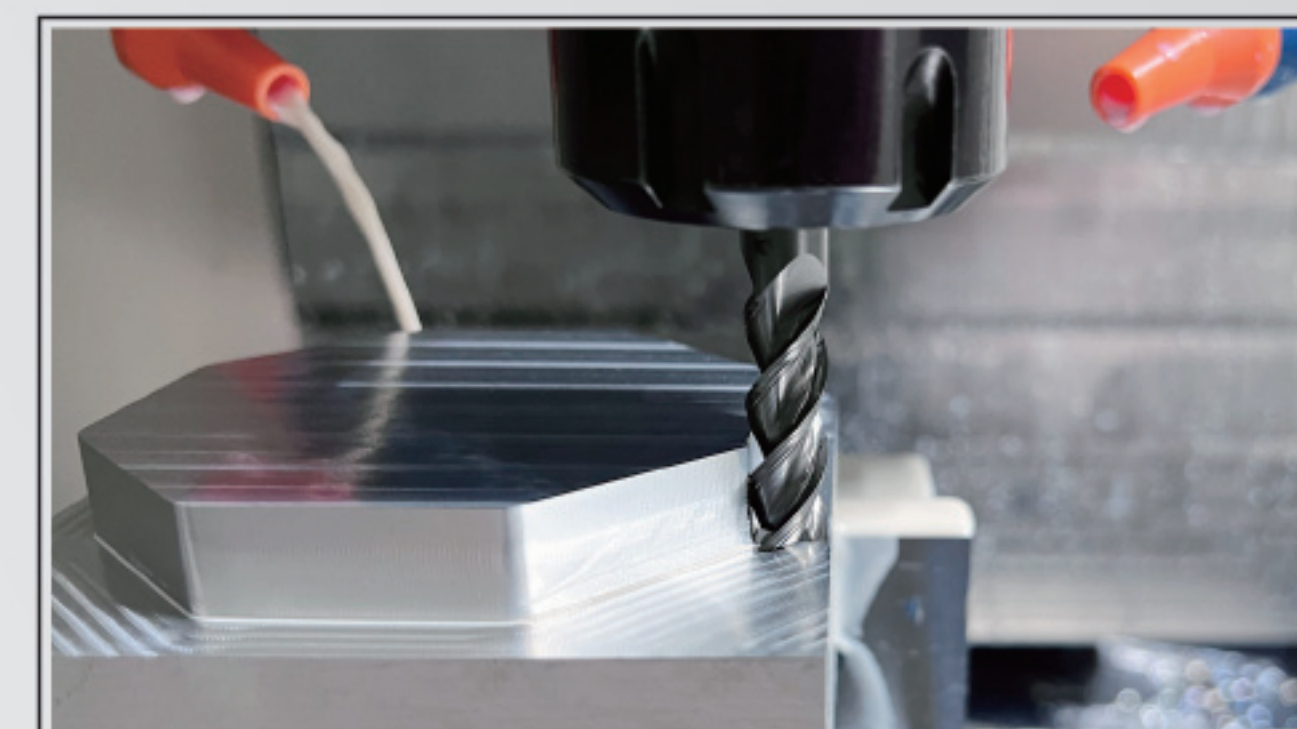
Spindle BT30 20000rpm

5.5KW/17.5NM(30-minute rating)

SJ-DL5.5/200-01T



## Cutting parameter

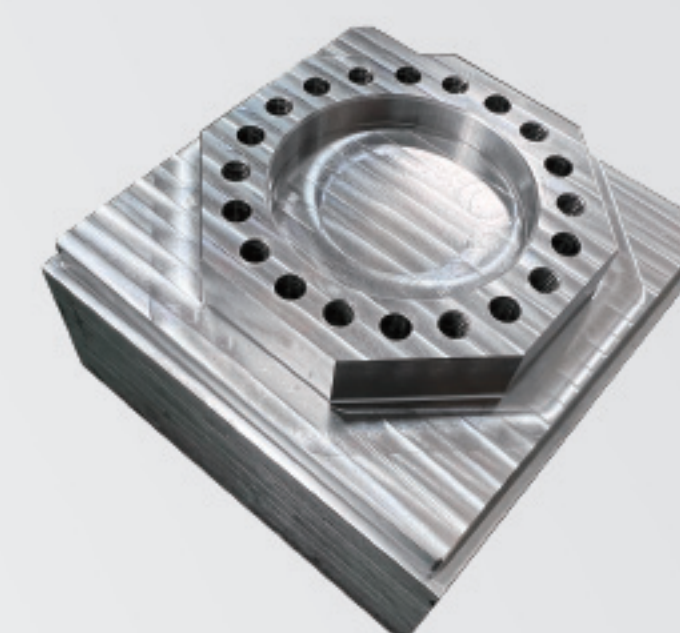


Material: 6061  
Tool: Φ10  
Feed: 5000mm/min  
Rotation speed: 12000rpm  
AE 1.5mm



Material: 6061 aluminum  
Minimum M1  
Maximum M12 ( Load93% )  
Drilling: 1V45-12V45(Load98%)

## Cutting capacity



### Drilling parameter

Material: 6061 aluminum  
Pore diameter: Φ1.6-1000 pcs  
Feed: 600mm/min  
Rotation speed: 3000rpm  
G81 Z-1.2  
G83 Z-10 Q2.0

G81: F300 \*M: 46S

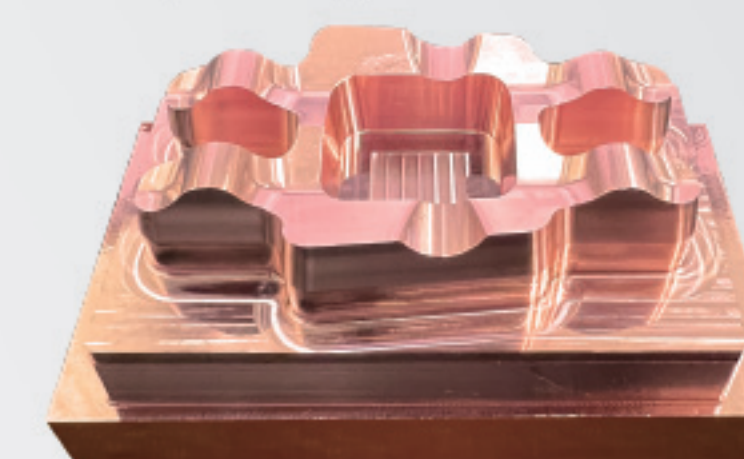
G83: F200 \*M: 2M45S

### Taping parameter

Material: 6061 aluminum  
M2/100 PCS  
Feed: 3000mm/min  
Rotation speed: 2000rpm  
G84 Taping to the end: 6  
G84 Peck taping: 8, 3mm/time

G84(Peck taping): F800 \*M: 8M46S

## Surface quality test



Material: Red copper  
Tool: 3R0.2/R1  
Feed: 1800  
Rotation speed: 15000rpm  
Time: 42min27s

Material: 6061

X/Y Tolerance: ≤0.012mm

Z Tolerance: ≤0.008mm

X/Y Tolerance: ≤0.012mm

Z Tolerance: ≤0.008mm

Surface smoothness: Ra1.2

## Standard Accessories

- FANUC 0i-MF(8.4") controller
- Or MITSUBISHI M80(8.4") controller



Program transfer

Tool setter

Accuracy adjustment



Home page

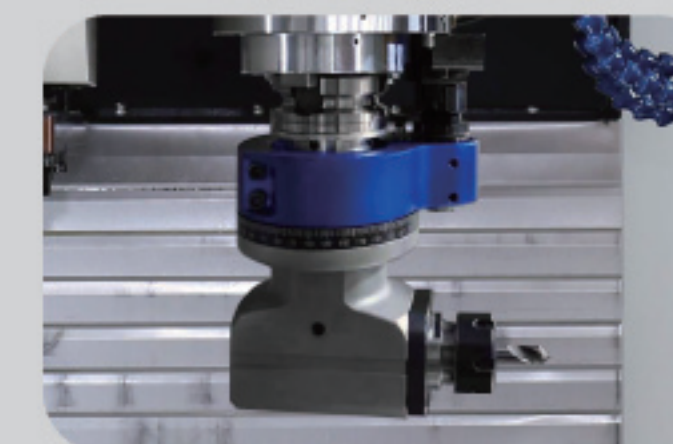
Auto edge searching



- Tool holder air blowing



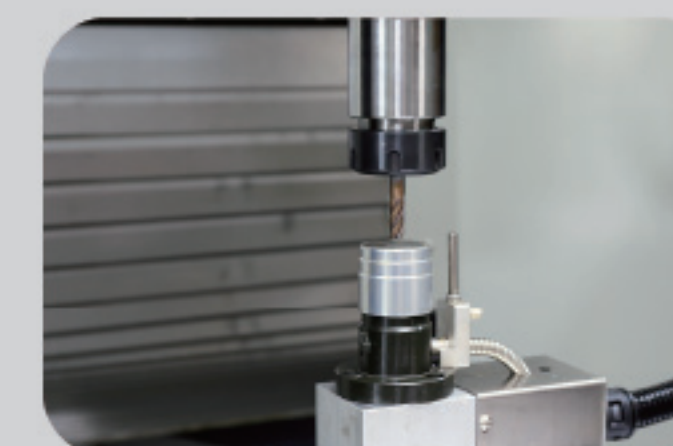
## Optional Accessories



BT30 side milling tool holder



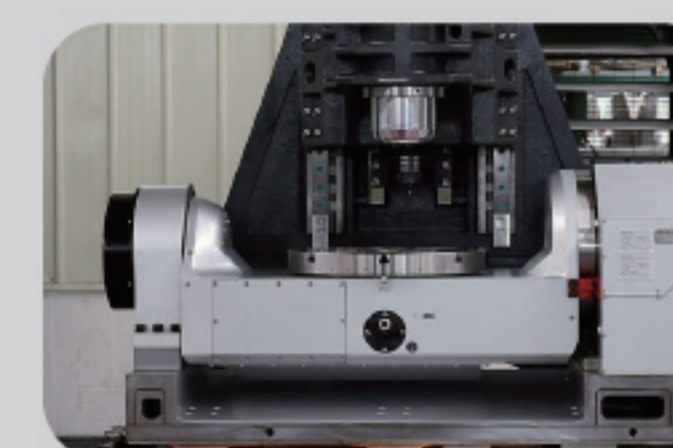
Oil mist collector



Tool setter



4th axis rotary table



5th axis rotary table

| Item                |                                                      | Unit               | BF-T6                    |
|---------------------|------------------------------------------------------|--------------------|--------------------------|
| Travel              | X axis travel                                        | mm                 | 600                      |
|                     | Y axis travel                                        | mm                 | 400                      |
|                     | Z axis travel                                        | mm                 | 300                      |
| Distance            | Spindle center to column                             | mm                 | 420                      |
|                     | Spindle nose to table surface                        | mm                 | 140-440                  |
| Worktable           | Worktable area                                       | mm                 | 700x420                  |
|                     | Dimension of T-slot                                  | mm                 | 3-14x135                 |
|                     | Max.worktable load                                   | kg                 | 400                      |
| Spindle             | Spindle taper                                        |                    | BBT30                    |
|                     | Spindle motor/torque (S2-15min S3/S6-40%) (FANUC)    | kw                 | 5.5/17.5                 |
|                     | Spindle motor/torque (30-minute rating) (MITSUBISHI) | kw                 | 5.5/17.5                 |
|                     | Max.spindle speed                                    | rpm                | 20000                    |
|                     | Rapid feed rate-X/Y/Z ( Fanuc )                      | m/min              | 48/48/48                 |
| Axial               | Rapid feed rate-X/Y/Z ( Mitsubishi )                 | m/min              | 48/48/48                 |
|                     | Axis acceleration                                    | g                  | 1.0                      |
|                     | Axis feed motor-X/Y/Z ( Fanuc )                      | kw                 | 1.5/1.5/3.0              |
|                     | Axis feed motor-X/Y/Z ( Mitsubishi )                 | kw                 | 1.5/1.5/3.0              |
|                     | X axis screw (Dia./pitch)                            | mm                 | 30/16                    |
|                     | Y axis screw (Dia./pitch)                            | mm                 | 30/16                    |
|                     | Z axis screw (Dia./pitch)                            | mm                 | 30/16                    |
| Tools               | Linear guide width(X/Y/Z)                            | mm                 | 30/30/35                 |
|                     | Max.tool length                                      | mm                 | 250                      |
|                     | Max.tool weight                                      | kg                 | 3                        |
|                     | Tool magazine capacity                               |                    | 21                       |
|                     | Max.tool(full)                                       | mm                 | 80                       |
|                     | Max.tool diameter(without adjacent tools)            | mm                 | 140                      |
|                     | Tool change time                                     | sec.               | 0.4                      |
|                     | Pull stud angle                                      | deg.               | BT30/45°                 |
|                     | Tool selection method                                |                    | Proximity tool selection |
| Accuracy (ISO230-2) | Positioning accuracy(bi-direction)                   | mm                 | ±0.003/300               |
|                     | Repeat positioning                                   | mm                 | ±0.002/300               |
|                     | Power requirement                                    | KVA                | 13                       |
| Machine             | Min/Max.air pressure                                 | kg/cm <sup>2</sup> | 5-7                      |
|                     | Coolant tank capacity                                | L.                 | 190                      |
|                     | Std.NC controller(Fanuc)                             |                    | 0i-MF PLUS               |
|                     | Std.NC controller ( Mitsubishi )                     |                    | M80                      |
|                     | Floor space requirement                              | mm                 | 1800x2512                |
|                     | Machine height                                       | mm                 | 2430                     |
|                     | Machine weight                                       | kg                 | 3600                     |

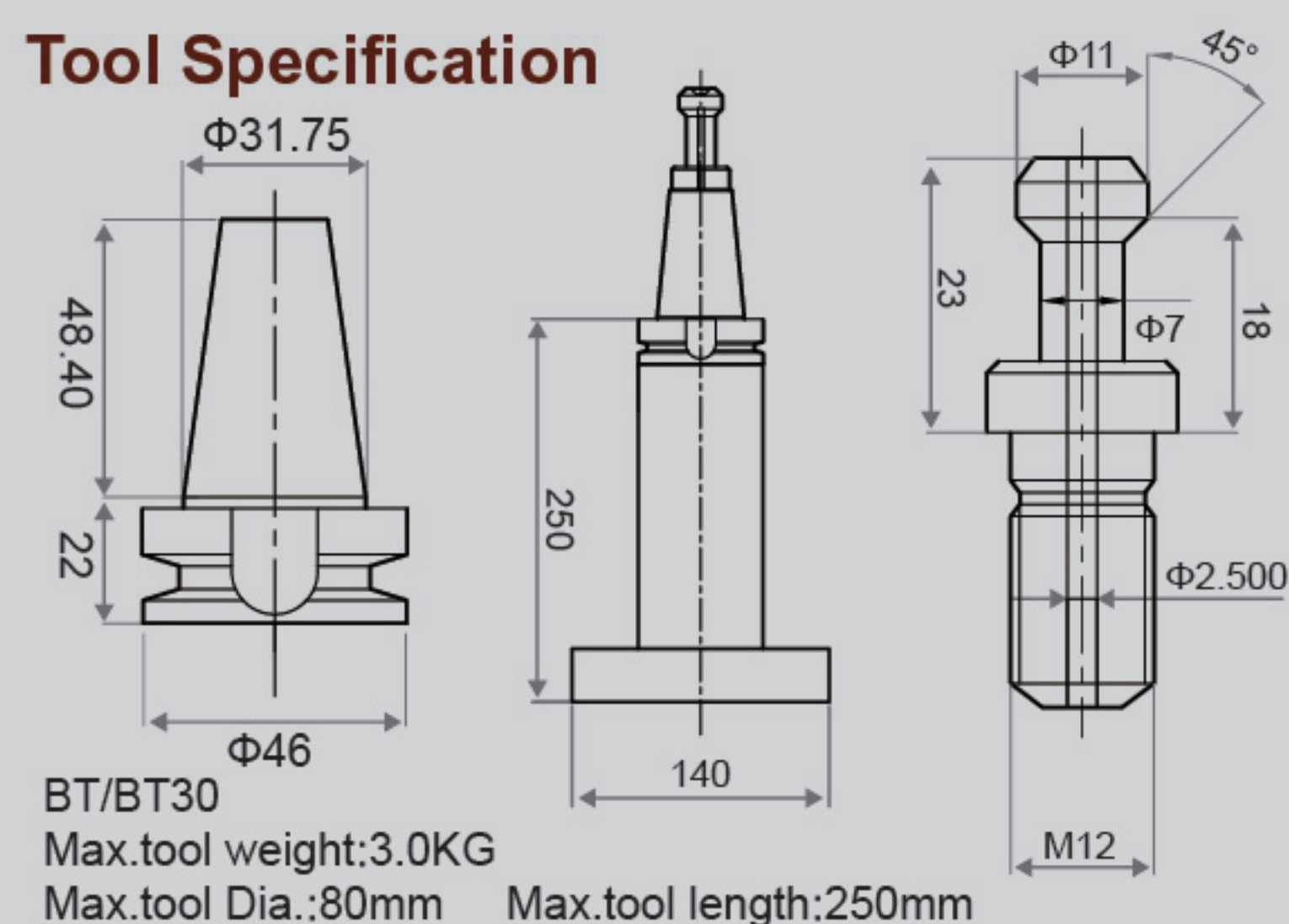
### Standard Accessories:

- FANUC 0i-MF(8.4") controller  
Or MITSUBISHI M80(8.4") controller
- Full enclosed metal cover
- 21T servo magazine
- Spindle oil coolant
- Heat exchanger
- Chassis flushing system
- Tool holder air blowing
- Central lubrication system
- Alarming light
- Auto power off, safety switch
- Rigid tapping
- MPG
- Tools and toolbox
- Leveling pads
- Air gun
- High pressure water gun

### Optional Accessories

- Air conditioner for electric cabinet
- Auto door
- Oil mist collector
- BT30 side milling tool holder
- Tool setter(for tool length)
- Tool setter(for tool length & radius)
- Laser tool setter
- Auto part measuring
- 4th axis rotary table(MAX ,φ210)
- 5th axis rotary table(MAX ,φ125)

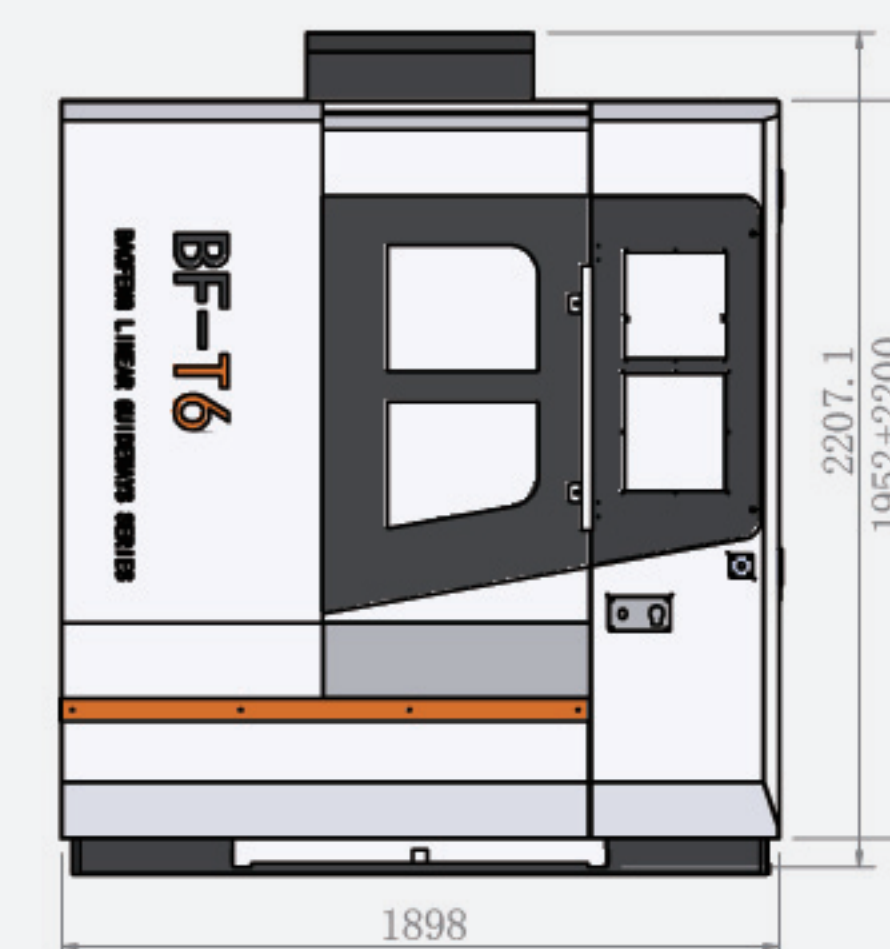
## Tool Specification



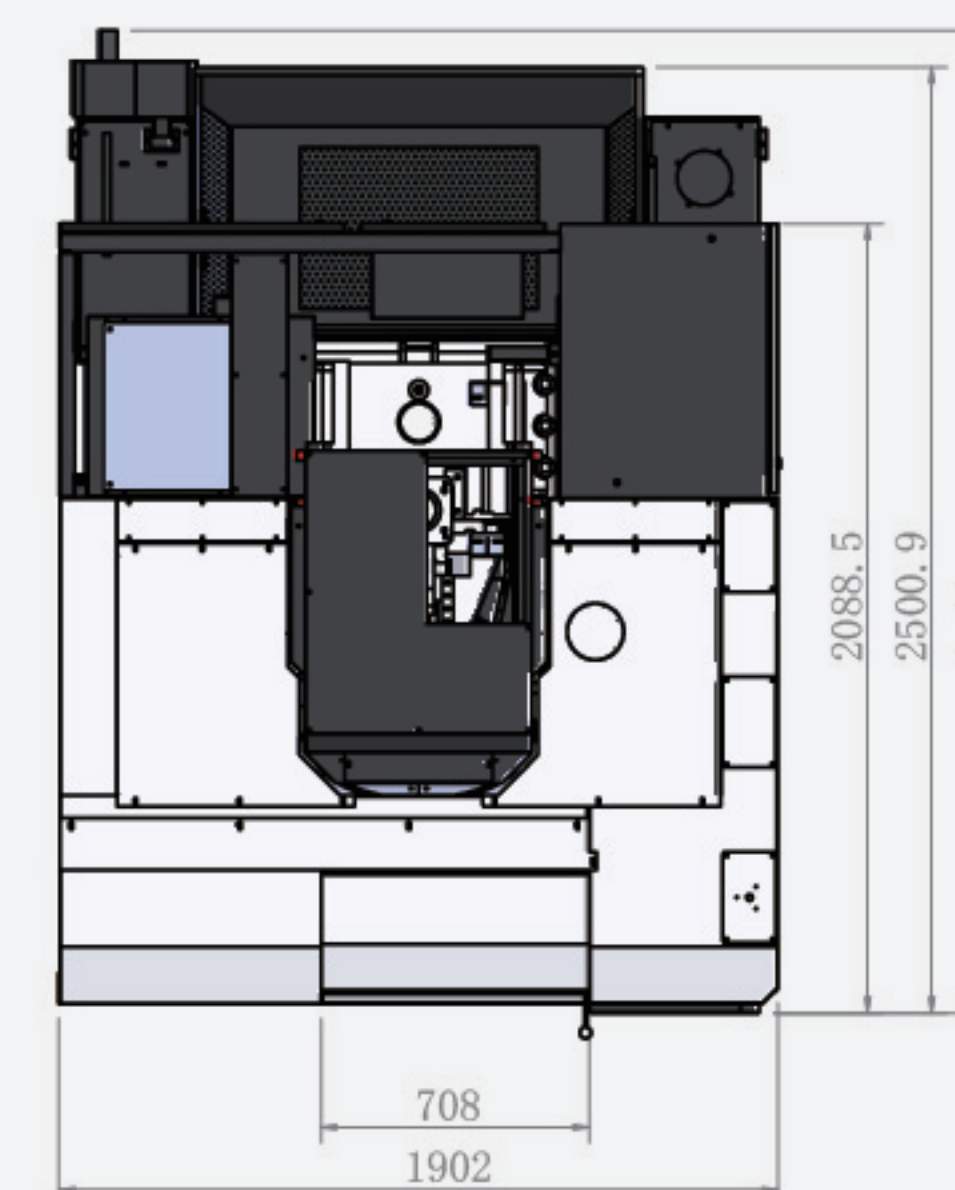
|                                                                   | Machining center |          |
|-------------------------------------------------------------------|------------------|----------|
|                                                                   | M80 series       |          |
|                                                                   | TypeA            | TypeB    |
| Max Number of Axes (NC Axes+Spindles+PLC axes)                    | 11               | 9        |
| "Max. Number of NC Axes( In Total of All the Part Systems)"       | 8                | 5        |
| Max. Number of Spindles                                           | 2                | 2        |
| Max. Number of PLC Axes                                           | 6                | 6        |
| Number of Simultaneous Contouring Control Axes                    | 4                | 4        |
| Max. Number of NC Axes in a Part System                           | 8                | 5        |
| Max. Number of Part Systems                                       | 2                | 1        |
| Control Unit-side High-speed Program Server Mode                  | —                | —        |
| Display Unit-side High-speed Program Server Mode                  | ○                | ○        |
| Front-side SD Card Mode                                           | ○                | ○        |
| Least Command Increment                                           | 0.1μm            | 0.1μm    |
| Least Control Increment                                           | 1nm              | 1nm      |
| Max. Number of Tool Offset Sets                                   | 400 sets         | 400 sets |
| Max. PLC Program Capacity[Steps]                                  | 64000            | 32000    |
| Multiple-project PLC (Max. Number of Projects)                    | 3                | 1        |
| Touch Gesture Operation                                           | ○                | ○        |
| Level Management Operation Authority Function                     | ○                | ○        |
| Workpiece Coordinate System Offset                                | —                | —        |
| 3D Program Check                                                  | ○                | ○        |
| Interactive Cycle Insertion                                       | —                | —        |
| Multiple-spindle Synchronization                                  | —                | —        |
| Spindle Superimposition Control                                   | —                | —        |
| High-accuracy Control                                             | ○                | ○        |
| High-speed High-accuracy Control I                                | ○                | ○        |
| High-speed High-accuracy Control II                               | ○                | —        |
| SSS Control                                                       | ○                | —        |
| Tolerance Control                                                 | ○                | —        |
| Variable-acceleration Pre-interpolation Acceleration/Deceleration | —                | —        |
| OMR-FF Control                                                    | ○                | ○        |
| Rapid Traverse Block Overlap                                      | ○                | ○        |
| Spindle-mode Servo Motor Control                                  | ○                | ○        |
| Real-time Tuning 1(Speed Gain Switch)                             | ○                | —        |
| Real-time Tuning 1 (Rapid Traverse Time Constant Switch)          | ○                | —        |
| Tool Center Point Control                                         | —                | —        |
| Inclined Surface Machining Command                                | ○                | —        |
| 3-dimensional Manual Feed                                         | ○                | —        |
| R-Navi                                                            | ○                | —        |
| CC-Link (Master/Local)                                            | □                | □        |
| PPROFIBUS-DP (Master)                                             | □                | □        |
| Ethernet/IP (Scan)                                                | □                | □        |
| MES Interface Function                                            | ○                | ○        |
| EcoMonitorLight Connection                                        | □                | □        |
| Machine Group-based Alarm Stop                                    | ○                | —        |
| Smart Safety Observation                                          | —                | —        |

| Controlled axis / Accuracy compensation function |                                                    |        |        |        |        |        |
|--------------------------------------------------|----------------------------------------------------|--------|--------|--------|--------|--------|
|                                                  |                                                    | Type 0 | Type 1 | Type 2 | Type 3 | Type 5 |
| Control axes                                     | 3 axes(X,Y,Z)4 axes (X,Y,Z,B)                      | ○5★7   | ○5★7   | ○5     | ○5     | ○5     |
| Simultaneous controlled axes                     | 3 axes (Max. 4 axes)                               | ○      | ○      | ○      | ○      | ○      |
| Least setting unit                               | X,Y,Z axes: 0.001mm(0.0001inch)                    | ○      | ○      | ○      | ○      | ○      |
|                                                  | B axis: 1deg[0.001]deg                             | ○      | ○      | ○      | ○      | ○      |
| Interpolation straightness compensation          |                                                    |        | ★      |        | ★      | ★      |
| AI Thermal displacement compensation             |                                                    |        | ★      |        | ★      | ★      |
| Ball screw thermal expansion compensation        |                                                    |        |        |        |        |        |
| Inch/Metric Conversion                           |                                                    |        | ○      | ○      | ○      | ○      |
| Linear scale optional closed loop                | Add linear scale interface communication module(★) | ○      | ○      | ○      | ○      | ○      |
| Double positions feedback                        | Optional when with linear scale(★)                 | ★      | ★      | ★      | ★      | ★      |
| <b>Operation</b>                                 |                                                    |        |        |        |        |        |
| 3D rigid tapping retraction                      |                                                    |        | ★      |        | -      | -      |
| 3D manual feed                                   |                                                    |        | ★      |        | -      | -      |
| 3D coordinate exchange                           |                                                    |        | ★      |        | ★      | -      |
| Inclined surface indexing command                |                                                    |        | ★      |        | ★      | -      |
| Handwheel retraction                             |                                                    |        | ○      |        | ○      | ○      |
| Multiple steps skip                              |                                                    |        | ○      |        | ○      | ○      |
| Processing preparation support function          | Edge search                                        |        | ○      |        | ○      | ○      |
| Small diameter deep-hole drilling cycle          |                                                    |        | ○      |        | ○      | ★      |
| Dynamic graphics display                         |                                                    |        | ○      |        | ○      | ○      |
| Program restart                                  |                                                    |        | ○      |        | ○      | ○      |
| Selected program block skip                      |                                                    |        | ○      |        | ○      | ★      |
| Memory card program editing and running          | 63 PCS                                             |        | ○      |        | ○      | ○      |
| USB memory program running                       | USD DNC machining                                  |        | -      |        | -      | -      |
| iHMI                                             |                                                    | ○      | -      | ○      | -      | -      |
| MANUAL GUIDE 0i                                  |                                                    | -      | ★      | -      | ★      | ★      |
| MANUAL GUIDE i                                   |                                                    | ○      | ★      | ○      | ★      | -      |
| Power-off retraction                             |                                                    |        | ○      | ○      | ○      | ○      |
| Handwheel interruption                           |                                                    |        | ○      | ○      | ○      | ○      |
| Interpolation function                           |                                                    |        |        |        |        |        |
| Nano interpolation                               |                                                    | ○      | ○      | ○      | ○      | ○      |
| Skip                                             | G31                                                |        | ○      | ○      | ○      | ○      |
| One-way positioning                              | G60                                                |        | ○      | ○      | ○      | ○      |
| Normal direction control                         | Application 1: friction welding                    | ○      | ○      |        | ★      | ★      |
| Tool front point control (TCP)                   | multi-axis machining                               | ★      | ★      |        | -      | -      |
| <b>Mold package option</b>                       |                                                    |        |        |        |        |        |
| High-accuracy program command                    | Include least setting Increment A~E                |        | ○      | ○      | ○      | ○      |
| Pre-read program block                           |                                                    |        | ○      |        | ○      | ○      |
| AICC I                                           | 40 block AICC I                                    |        | -      |        | -      | ○      |
| AICC II                                          | 200 block AICC II                                  |        | ○      | ○      | -      | ○      |
|                                                  | 400 block AICC II                                  | ★      | ★      | ○      | ○      | -      |
| Jerk control                                     |                                                    |        | ○      | ○      | ○      | ○      |
| Smooth tolerance control                         |                                                    |        | ○      | ○      | ○      | ○      |
| Machining condition/mode selection               |                                                    |        | ○      | ○      | ○      | ○      |
| Smart adaptive Control                           |                                                    |        | ★      | ★      | ★      | ★      |
| <b>Program input</b>                             |                                                    |        |        |        |        |        |
| Optional block skip                              | 9 blocks                                           |        | ○      | ○      | ○      | ★      |
| <b>Auxiliary/spindle function</b>                |                                                    |        |        |        |        |        |
| Cs contour control                               | Serial communication spindle position control      |        | ○      | ○      | ○      | ○      |
| Spindle orientation                              | M19(S_ _ _)                                        |        | ○      | ○      | ○      | ○      |
| <b>Tool function / tool offset</b>               |                                                    |        |        |        |        |        |
| Tool life management                             |                                                    |        | ○      | ○      | ○      | ○      |
| Tool broken detection                            |                                                    |        | -      | -      |        |        |
| <b>Editing function</b>                          |                                                    |        |        |        |        |        |
| Workpiece program storage                        | 5,120m(2MB)                                        |        | ○      | ○      | ○      | ○      |
| Extended part program editing                    | Copy, move and change of NC program                |        | ○      | ○      | ○      | ○      |
| Data server function                             |                                                    |        | ★      | ★      | ★      | ★      |
| <b>Setting, display and diagnosis</b>            |                                                    |        |        |        |        |        |
| Multi language display                           | Support 24 languagesz                              |        | ○      | ○      | ○      | ○9     |

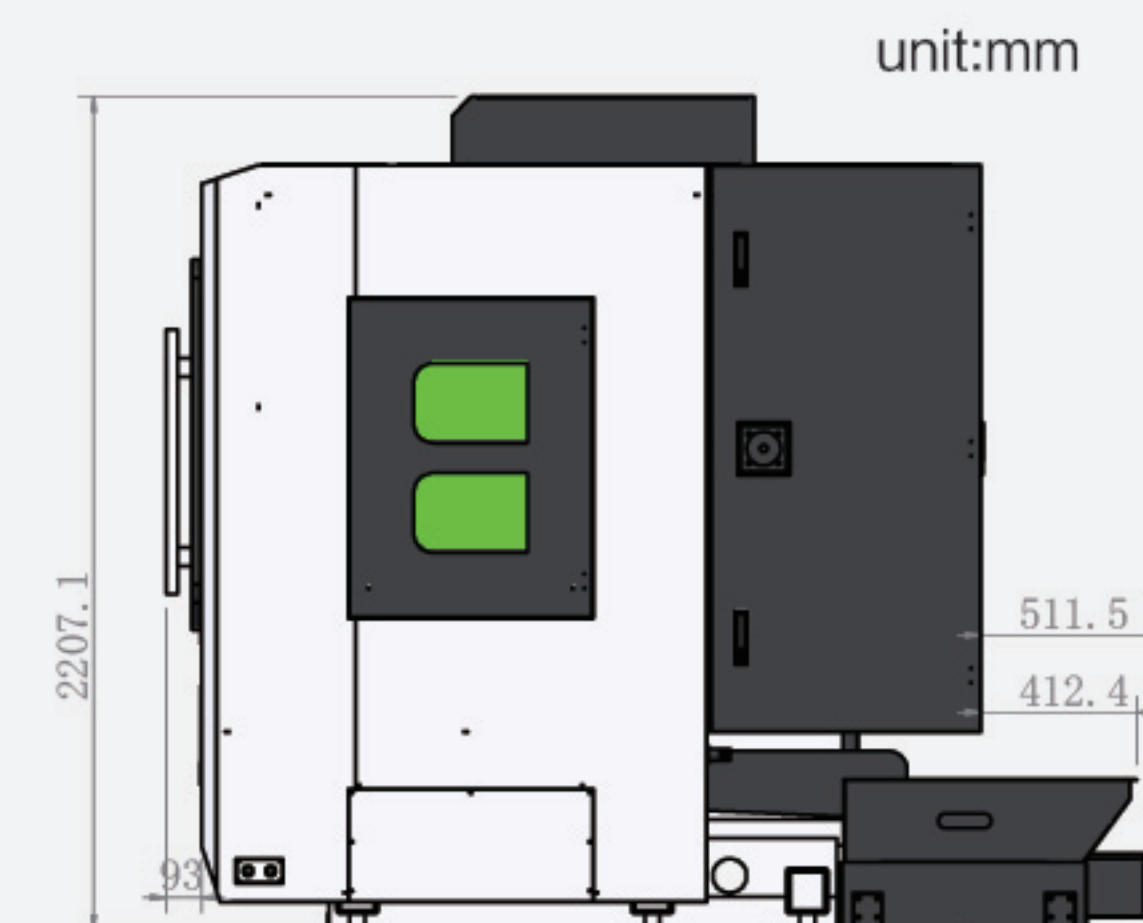
Note: ○Standard ●Required ☆ Optional -Not Applicable Please refer to the specification sheet for details.



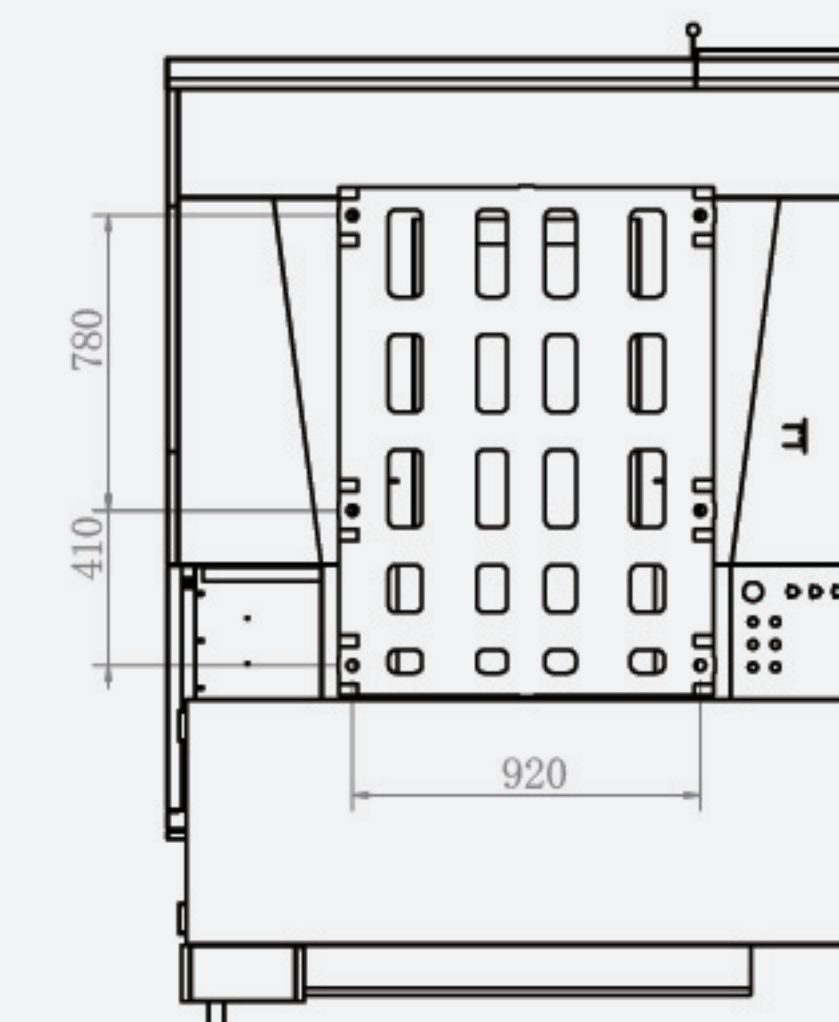
Front view



Vertical view



Side view



bottom view

## Installation preparations

| NO | Project                        | Requirement                                                                                                                                                                                          | Remark                                                                 |
|----|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| 1  | Confirm entry width and height | Enough space for equipment                                                                                                                                                                           | External dimensions of the equipment +500mm                            |
| 2  | Power cable line               | 4*6mm <sup>2</sup>                                                                                                                                                                                   | Sufficient to connect to the machine                                   |
| 3  | Compressed air access          | Air source filtration accuracy 100μm, air pipe outer diameter 10mm                                                                                                                                   | External air pipe should be enough to connect to the machine interface |
| 4  | Shipping solution              | 1.Confirmation of the transport method according to the road conditions around the plant and the largest packing dimensions<br>1.Confirmation of equipment access according to the actual conditions |                                                                        |