

CNC 2 Spindle 2 Slide  
Precision Lathe

# XXW series



**TAKAMAZ**

CNC **2**-Spindle **2**-Slide Precision Lathe

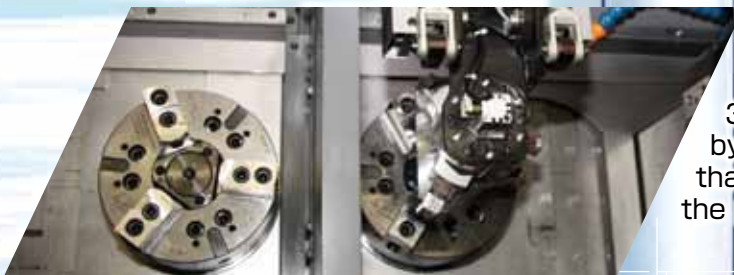
# XW series

*Full Lineup of **2**-Spindle and **2**-Slide lathe machines!*



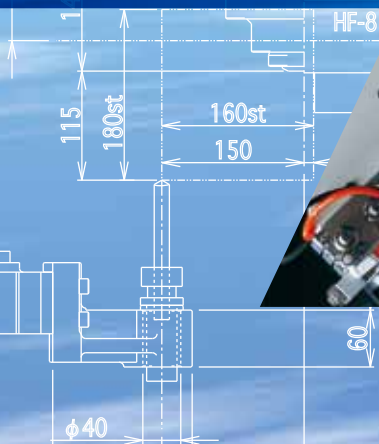
From the original spindle parallel structure, a high rigidity, compact and high precision design is achieved. This qualifies as an expert model for durability on mass production system.

*Simultaneous same process machining*



“Work in process” is no longer in inventory. The loader is equipped with a 3-axis servo that is realized by a flexible line structure that leads to reduction of the production line.

*Simultaneous machining of both sides of the part*



Depending on the production requirements, separate left and right cutting is possible.

*Independent Production Form*

Chuck size

Type

**XW-30**

**3**

Inch



Gang Type

The best machine for small production!

**P3–P4**

**XW-30PLUS**

**4**

Inch



Gang Type

Achieving high-speed, high-accuracy machining!

**P3–P4**

**XW-80**

**6**

Inch



Drum Type

Reduces abnormal heat changes leading to steady thermal changes per time lapses!

**P5–P6**

**XW-80M**

**6**

Inch



Drum Type

Multi-process Machining with Power Tools

**P5–P6**

**XW-130**

**8**

Inch



Drum Type

Fastest Loading Time in Its Class

**P7–P8**

**XW-130M**

**8**

Inch



Drum Type

Achieving high productivity with powerful milling!

**P9–P10**

**XW-200**

**10**

Inch



Drum Type

Long-awaited machine accepting 10-inch chucks

**P11–P12**





※The photo shows the XW-30PLUS.

CNC 2-Spindle 2-Slide Precision Lathe

# XW-30/30

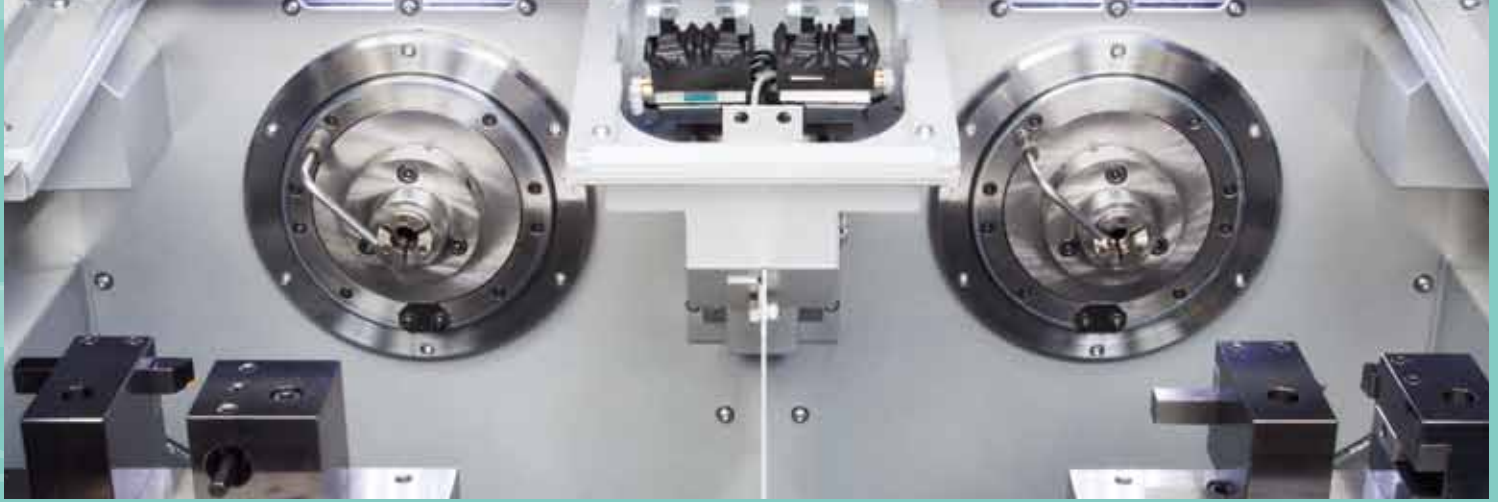
NEW

Chuck size 3 / 4 Inch

PLUS

※The XW-30 accepts 3-inch chucks only.





# High-speed, high-accuracy machining achieved in an elegant, compact body!

## Incorporating a new-type spindle unit (XW-30PLUS)

A high-efficiency motor with an output of 5.5/7 kW is adopted as the built-in motor. The unit is compatible with chucks up to 4 inches, and a hydraulic cylinder can also be equipped as an option to enable stable mass production machining of workpieces that require a strong gripping force. The reviewed cooling circuit has made the oil controller that used to be essential for short-cycle machining unnecessary\*, reducing the cost and space requirements.

※An oil controller is still required with some specifications.

## Pursuing high precision cutting by incorporating a cooling system in the machine

Generally on a machine with 2 spindles, a heat imbalance arises in cases where different cutting is performed at the left and right sides. This leads to unstable accuracy. The XW-30 series is built with a cooling tank inside the bed for the two spindles to suppress thermal displacement, achieving stable accuracy over the long term (patented).

## Production improved by a high-speed loader

Either a compact "ΣiW loader" or high-speed compact "ΣiWH loader" (option) can be selected. These smallest ever Takamaz loaders have been realized through a 2-stage configuration on the vertical axis. High productivity is assured by a loading time of 4 seconds with the ΣiW loader and 2 seconds with the ΣiWH loader (not including shutter operation). In addition, placing the intermediate turnover unit in the center and providing two reversing hands makes it possible to receive and deliver workpieces simultaneously without the loader going outside the machine at any time, so substantial shortening of cycle times has been achieved.

※The intermediate turnover unit is located in the center on the XW-30PLUS only.

## New design with consideration for quick changeover

For setup changes, the top part of the front cover can be opened across the full width of the machine. The door opening has been scaled up from a width of 550mm on existing machines to 900mm, improving the working environment. The shutter also opens up well to the rear, allowing setup work to be performed safely and speedily.



## Higher performance control system

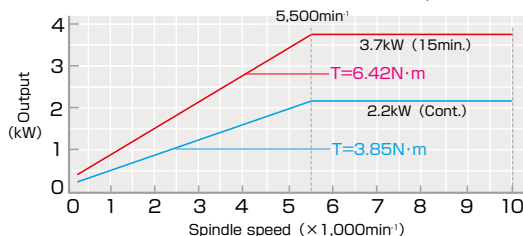
The general NC function that was previously an optional setting has been made standard, providing a high level of functionality. Operating convenience is also improved by making the operation box more compact and adopting a touch panel monitor.

## Space-saving design and long-awaited addition of CE specifications (XW-30PLUS)

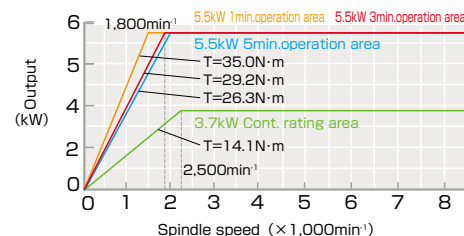
Space savings have been realized with a machine 1,340mm wide (bed width: 1,040mm), 2,120mm deep and 1,500mm high. Compliance with CE standards has been made possible too, enabling safe usage in Europe as well.

※Machines with CE specifications have different dimensions.

**XW-30 Spindle motor torque diagram** ■ Max.10,000min<sup>-1</sup> Standard type (AC3.7/2.2kW)



**XW-30PLUS Spindle motor torque diagram**





※The photo shows the XW-80M.

CNC 2-Spindle 2-Turret Precision Lathe

# XW-80/80M

Chuck size 6 Inch



## Suitable for a mass production using 6 inch chuck class machines! Achieved zero “work in process” inventory and equipped with a rotary tool.

### Corresponds to every type of production

Diverse process requirements including simultaneous machining of the same process, of both surfaces, and of different processes, can be handled by one machine. Multi-process machining for mass production such as drilling and tapping can also be achieved with power tools and the Cs-axis. (Power tool available on XW-80M)

### Stable precision machining

The Z-axis slide base and the bed support of this machine are combined resulting to a higher rigid design. The slide is equipped with high rigid roller guide for good tracking, capable of sliding more smoothly as it is controlled by a new CNC. These improvements are aimed at improving machine accuracy. By conducting a thorough analysis of thermal displacement, a symmetric bed structure has been introduced. A cooling unit has been installed as standard to restrict relative displacement due to temperature change during machining and maintain stable dimensional accuracy.

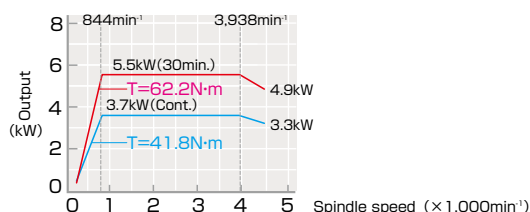
### Improved Operating Ratio per Unit Area

Two-spindle simultaneous machining reduces the cycle time by half. The machine is compactly designed with the length of 1,720mm and the floor space as small as 3.1m<sup>2</sup>.

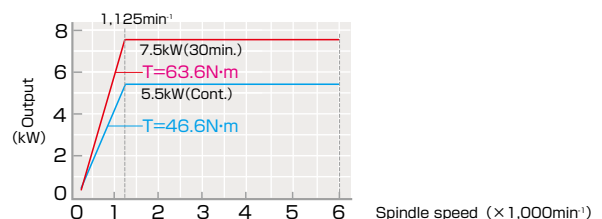
### 3-axis high speed loader “ΣGT60”

Quick release spring type shutter enables no time loss for loader entry and return realizing the fastest loading and system time available. Loading time: 5.5 seconds  
System cycle time: 19 seconds (10-10 flow)

**XW-80 Spindle motor torque diagram** ■ Max.4,500min<sup>-1</sup> Standard type  
(AC 5.5/3.7kW)



**XW-80M Spindle motor torque diagram** ■ Max.6,000min<sup>-1</sup> Standard type  
(AC 7.5/5.5kW)





# XW-130



CNC 2-Spindle 2-Turret Precision Lathe

# XW-130

Chuck size 8 Inch







# A 2-Spindle 2-Turret Precision Lathe with "high-speed high-power" 8-inch chuck.

## Loading time with a mark of fastest class at 6 seconds

The XW-130 series is equipped with a newly-developed 3-axis loader dedicated to 2-spindle configurations. High rigidity has been achieved by increasing the rack size, and higher travel speeds have been sought, resulting in the fastest loading time in its class at 6 seconds. In addition, improvement of the intermediate turnover unit has enabled workpiece delivery to be completed in one motion instead of two as was previously necessary, allowing a cycle time of only 18 seconds for processes 1 and 2 in both-side machining (patented). What is more, one of the parallel loader hands has been given an independent drive function, and a configuration that minimizes interference with the stocker, washer unit, etc., during delivery has been adopted. As a result of loader speed-up and shutter optimization, the previous opening/closing time has been halved, to under 0.5 seconds.



## Pursuit of accuracy and cutting capacity with 8 inch chuck

The spindles feature large-diameter 100-mm bearings and an 11/7.5 kW motor as standard, realizing powerful cutting performance. In the pursuit of stable accuracy, a vibration damping construction (patented) with built-in functional materials that suppress vibration has been adopted. A spindle base cooling system (patented) is now also installed, enabling stable machining accuracy on a sustainable basis.

## Low center of gravity, space-saving ease of use

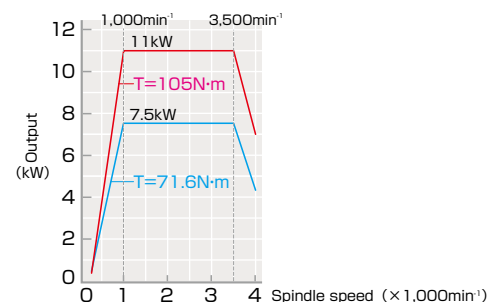
Slide strokes are X-axis 150mm and Z axis 160mm (Slide is a high rigidity slide angle), while ensuring a compact design with spindle center height 1,000mm, machine width 1,890mm, without even a room for mounting a loader. In addition, by pursuing a design for ease of use, spindle chuck and work turn device are closer to reach, making tool changeover easier. Because it is also available in a wide variety of options like the previous models, meeting the specifications that users need can be achieved.



## Ease of maintenance

For cutting inside the machine, there is no exposure of the slide wipers. Therefore countermeasure for hot chip is perfect. In addition, because of the chip conveyor, stagnation of the chip does not occur directly under the spindle. Furthermore, coolant tank can be pulled out from the front of the machine, which is a structure for coolant tank easy cleaning. With complete opening of rear cover, and the piping concentrated in the machine side, it is the structure that ensures easy maintenance on the rear area of the machine.

**XW-130 Spindle motor torque diagram** ■ Max.4,000min<sup>-1</sup> Standard type (AC 11/7.5kW)





CNC 2-Spindle 2-Turret Precision Lathe

**XW-130M** NEW

Chuck size 8 Inch



# Support for Diverse Compound Machining Needs through Mounting of Power Tools

## High productivity with powerful milling

The machine is equipped with a power tool unit suitable for 8-inch chucks. It has a maximum capacity of 20 power tools, and supports the requirements of process integration through compound machining. In addition, in-process inventory has been reduced to zero by simultaneous front and back machining, delivering high productivity.

| Item        |                       | Unit              |               |
|-------------|-----------------------|-------------------|---------------|
| Power tools | Tool storage capacity | pcs.              | 10 (One side) |
|             | Max. rotating speed   | min <sup>-1</sup> | Max.4,000     |
|             | Drill                 | mm                | φ 16          |
|             | Endmill               | mm                | φ 16          |
|             | Tap                   | mm                | M4~M10        |
|             | Drive motor           | kW                | AC 3.7/2.2    |
| C-axis      | Spindle indexing      | deg./min          | 18,000        |
|             | Index angle           | deg.              | 0.001         |

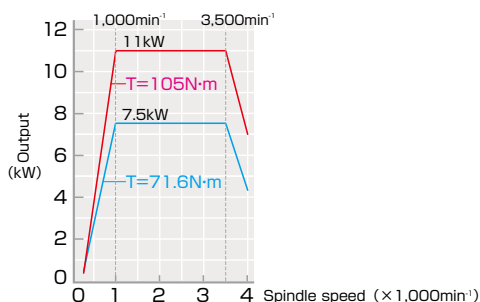
## Aiming at high-accuracy machining by incorporating original technology

A unique spindle base cooling system (patented) that takes the circulation of coolant into consideration is equipped as standard and has achieved stable dimensional accuracy by suppressing thermal displacement of the bed and minimizing changes over time. In addition, a vibration damping construction (patented) with built-in functional materials that suppress vibration has been adopted, achieving high-accuracy machining. (Common with XW-130 / 200)

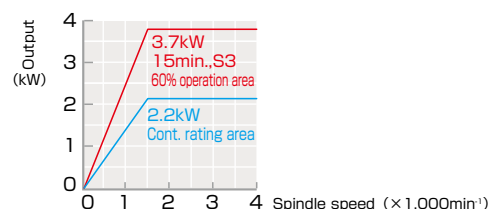
## Improvement of working convenience at setup changes

The low-center-of-gravity construction with spindle center height restricted to 1,000 mm means that chucks and workpieces can be replaced in a comfortable posture. Overhead lighting is also installed as standard so that work can be carried out in a well-illuminated machine interior, which helps to achieve shorter working times and substantially better working efficiency. In addition, the adoption of a swiveling operation panel and a pendant operation panel for the transfer loader as standard enables simple and accurate teaching. (Common with XW-200)

**XW-130<sub>M</sub> Spindle motor torque diagram** ■ Max.4,000min<sup>-1</sup> Standard type (AC 11/7.5kW)



**XW-130<sub>M</sub> Power tools motor diagram** ■ Max.4,000min<sup>-1</sup> Standard type (AC 3.7/2.2kW)





CNC 2-Spindle 2-Turret Precision Lathe

# XW-200

NEW

Chuck size 10 Inch

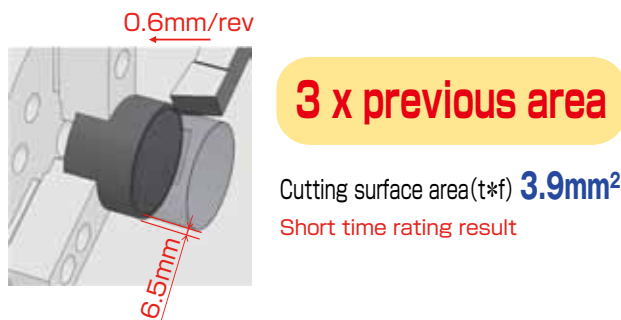




# Long-awaited XW-series Machine Accepting 10-inch Chucks Excels at Compound Machining and High Productivity

## Powerful heavy-duty cutting capability

The adoption of large-diameter  $\phi 120\text{mm}$  bearings and an 18.5/15 kW motor has realized stable machining of large workpieces. With stable spindle output in the mid- and low-speed ranges allow cutting across three times the cutting surface area of existing models is achieved, showing their outstanding power in the heavy-duty machining of large flange-type workpieces.

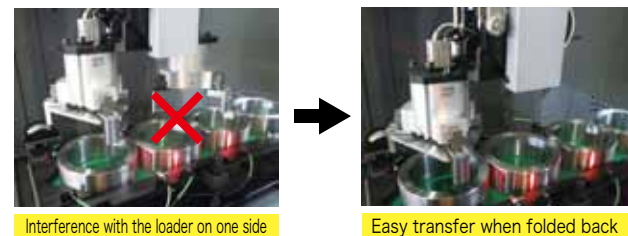


## Original technology installed for high-accuracy machining

A unique spindle base cooling system (patented) that takes the circulation of coolant into consideration is equipped as standard and has achieved stable dimensional accuracy by suppressing thermal displacement of the bed and minimizing changes over time. In addition, a vibration damping construction (patented) with built-in functional materials that suppress vibration has been adopted, achieving high-accuracy machining. (Common with XW-130 / 130M)

## Transfer of large workpieces enabled

The largest workpieces that Takamaz machines can handle, measuring  $\phi 200\text{ mm}$  and up to 8 kg, can be transferred on each side. Since hands can be folded back in addition to being turned, workpieces arranged in a line can be picked up easily without interfering with the loader on one side. Use of the high-speed shutter, patented Takamaz technology, reduces the time for opening/closing operation to under 0.5 seconds, or half the time on existing machines, achieving high productivity and shorter cycle times.

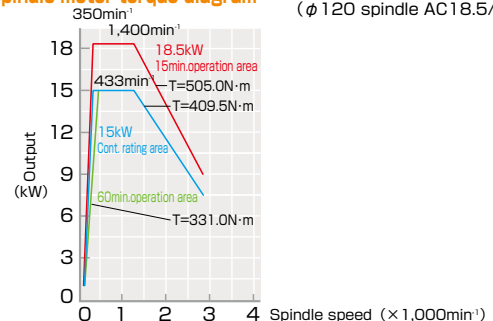


## Better operating convenience in setup changes

The low-center-of-gravity construction with spindle center height restricted to 1,000 mm means that chucks and workpieces can be replaced in a comfortable posture. Overhead lighting is also installed as standard so that work can be carried out in a well-illuminated machine interior, which helps to achieve shorter working times and substantially improved working efficiency. In addition, the adoption of a swiveling operation panel and a pendant operation panel for the transfer loader as standard enables simple and accurate teaching. (Common with XW-130M)

## XW-200 Spindle motor torque diagram

■ Max.2,800min<sup>-1</sup> Standard type ( $\phi 120\text{ spindle AC18.5/15kW}$ )



## Equipped with the [Speed] and [Small Footprint] Servo Loader, “Σi Series”

As a result of machine body and loader integrated as one unit, superiority in design balance is accomplished as well as high productivity and space savings, and with after-sale service by **TAKAMAZ**, will benefit the customer on different aspects.

- ◆The largest three-axis control, setup is easy and can be done quickly.
- ◆Depending on the cutting time, it is possible to equip the machine with 1 or 2 loaders.
- ◆In each point, it is possible to set the interlock to prevent accidental collision.
- ◆All database, the servo parameter, the data tables, and timer setting can be uploaded and downloaded to and from the memory card.



### Loader transfer capacity

| Item                            |                               | Unit  | XW-30/30PLUS              |                          | XW-80/80M     | XW-130                 | XW-130M/200 | XW-200        |
|---------------------------------|-------------------------------|-------|---------------------------|--------------------------|---------------|------------------------|-------------|---------------|
| Loader Model                    |                               |       | ΣiW30(2axes)              | ΣiW30H(2axes)            | ΣGT60(3axes)  | ΣiGTH150               |             | ΣiGTH200      |
| Loading Time (Reference)        |                               | sec.  | 4                         | 2                        | 6             | 6                      |             | 7             |
| Transport<br>Work Dimension     | Diameter x Length (Reference) | mm    | φ30×40                    |                          | φ60×60        | φ150×50                |             | φ200×120      |
|                                 | Weight                        | kg    | 0.3(One side)             |                          | 1.0(One side) | 3.0(One side)          |             | 8.0(One side) |
| Shoulder<br>(Traverse axis : Z) | Drive System                  |       | Servomotor                |                          |               |                        |             |               |
|                                 | Stroke                        | mm    | Depends on specifications |                          |               |                        |             |               |
|                                 | Rapid Traverse Rate           | m/min | 80                        | 150                      | 110           | 170                    |             | 100           |
| Forward/<br>Backward axis : X   | Drive System                  |       | —                         |                          | Servomotor    |                        |             |               |
|                                 | Stroke                        | mm    | —                         |                          | 200           | 235                    |             |               |
|                                 | Rapid Traverse Rate           | m/min | —                         |                          | 45            | 35                     |             | 30            |
| Arm<br>(Vertical axis: Y)       | Drive System                  |       | Servomotor                |                          |               |                        |             |               |
|                                 | Stroke                        | mm    | 250                       | 240                      | 470           | 690                    | 760         | 780           |
|                                 | Rapid Traverse Rate           | m/min | 80                        | 240                      | 75            | 125                    |             | 80            |
| Hand                            | Drive System                  |       | Air cylinder              |                          |               |                        |             |               |
|                                 | Angle                         | deg.  | —                         |                          | 90            |                        |             |               |
|                                 | Jaw Stroke                    | mm    | 9(One side)               | —                        | 10(One side)  | 16(One side)           |             | 12(One side)  |
| Hand Type                       |                               |       | Parallel Hand             | Pivoting open/close hand | L Hand        | ΣiGTH dedicated L Hand |             |               |

※The loading time, transport and work dimensions are the indicators.

## Different varieties of loader hand that can handle different shapes of parts

◆ We offer a loader hand that can handle wide range of parts including flange and shaft parts.

### Parallel Hand(CR)

XW-30 XW-30PLUS



### L Hand

XW-80 XW-80M



### ΣiGTH dedicated L Hand

XW-130 XW-130M XW-200



## Flexible Variation for Automated Large-Variety and Small-Lot Production

| Machining Type<br>Machining Flow | Continuous Front and Rear Machining Line | Same Process Machining Line |
|----------------------------------|--|-----------------------------|
| L → R                            |  |                             |
| L ← R                            |  |                             |
| L ↺<br>L                         |  |                             |
| ↻ R<br>R                         |  |                             |
| L ↔ R                            | —  |                             |

## Automation Peripheral Devices

◆ A production line with different varieties of peripheral devices and loading variations can be designed.

### In / Out Stocker



### In / Out Conveyor



### Auto measurement unit



### External turning device





## Quality / Environment Control Unit



● **Signal Tower**  
The solid and flashing lights for the operating conditions.



● **Cleaning unit**  
Without operator intervention, cleaning is performed automatically.



● **Oil mist collector**  
Oil mist collection facilities a clean production environment.



● **Automatic fire extinguisher**  
If fire breaks out in the machine during automatic operations, fire extinguishing agent is automatically discharged.

## Work Stocker / Transfer Unit



● **Tray Changer**  
By stacking per pallet, scratches on parts are prevented because of better stacking resulting to an efficient form of delivery system.



● **“Rakuchin” Stocker**  
Reasonably priced bucket for easy bucket transport management.



● **Elevator Hopper**  
Through the stocker as first process (parts supply), the stocker is suitable for production of short delivery cycle.



● **Rotary Stocker**  
The space-saving, low-cost stocker. The position can be adjusted easily according to the size of the part.

## Cutting efficiency / Chip disposal



● **Alloyed Clamp Holder for vibration suppression**  
Inhibiting the progression of wear boundary is expected to extend cutting tool life in high speed machining.



● **Chip Conveyor (Spiral Type)**  
Chip disposal is done semi-automatically at a minimum space. Floor type is also available.



● **High-pressure coolant**  
Constantly cooled coolant is discharged at high pressure so that the tool life is significantly prolonged.



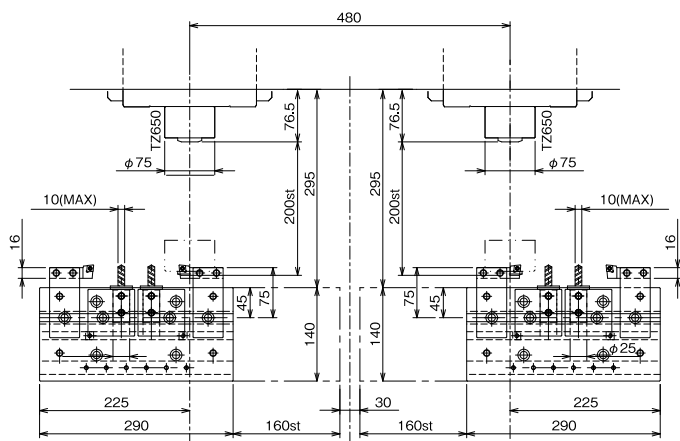
● **Semi-dry machining**  
Ultrathin, highly-lubricating vegetable coolant is applied to the correct point on the cutting edge, realizing semi-dry machining.



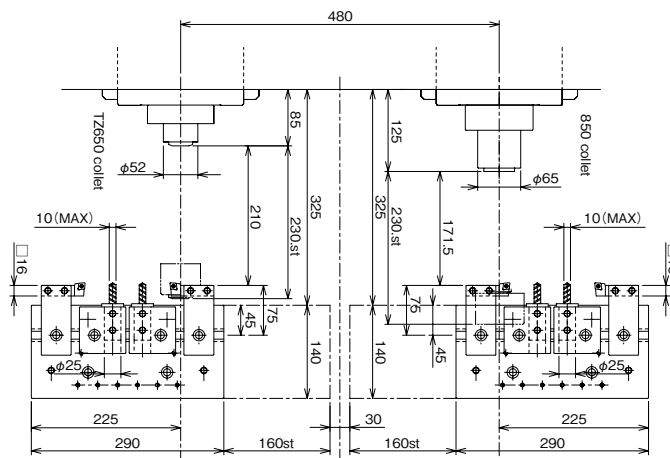
## Tooling System

|  |  |   |   |   |
|--|--|---|---|---|
| <p>Tool mounting bolt<br/>M10</p> <p>Holder mounting bolt<br/>M10</p> <p>Ø25</p>                 | <p>Holder mounting bolt<br/>M10</p> <p>Tool mounting bolt<br/>M10</p> <p>Ø25</p>                 | <p>Tool mounting bolt<br/>M10</p> <p>Holder mounting bolt<br/>M10</p> <p>Tool spacer</p>      | <p>Holder mounting bolt<br/>M10</p> <p>Tool mounting bolt<br/>M10</p> <p>Tool spacer</p>        | <p>Tool mounting bolt<br/>M10</p> <p>Holder mounting bolt<br/>M10</p> <p>Tool spacer</p>        |
| <p>3110800100<br/>Boring holder1<br/>Assy 8150800300 (XW-30PLUS)<br/>Assy 8116820200 (XW-30)</p> | <p>3110800300<br/>Boring holder2<br/>Assy 8150800400 (XW-30PLUS)<br/>Assy 8116820300 (XW-30)</p> | <p>3108309901<br/>O.D. holder<br/>Assy 8150800200 (XW-30PLUS)<br/>Assy 8116820100 (XW-30)</p> | <p>3108308500<br/>Face holder L<br/>Assy 8150800500 (XW-30PLUS)<br/>Assy 8116820400 (XW-30)</p> | <p>3108310000<br/>Face holder R<br/>Assy 8150800600 (XW-30PLUS)<br/>Assy 8116820500 (XW-30)</p> |

# XW-30

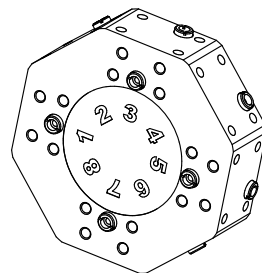


# XW-30PLUS

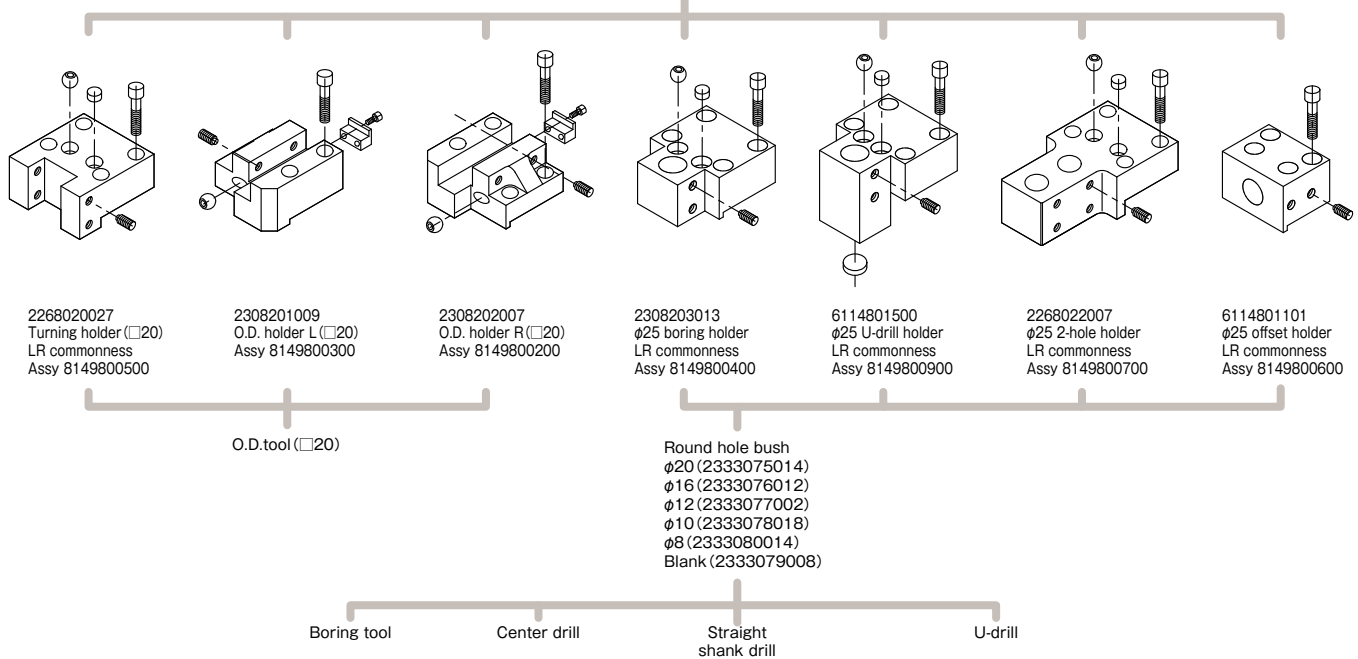


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# XW-80



8-station turret

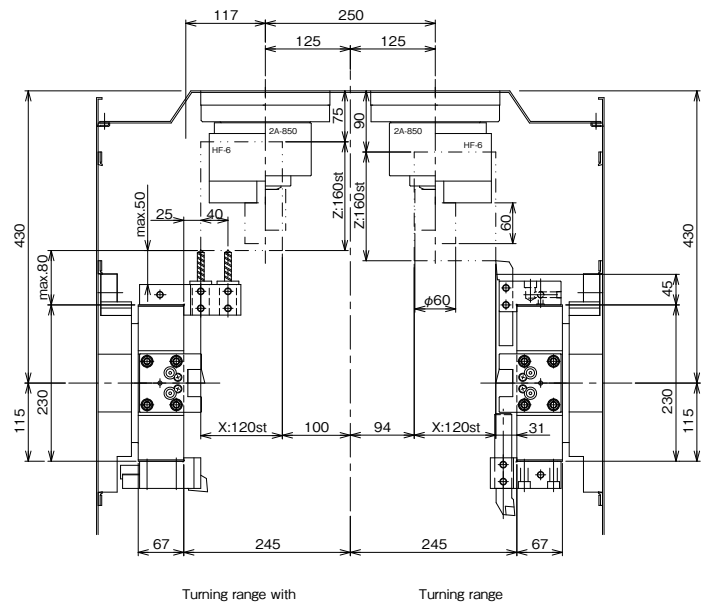


## Stroke-Related Drawing

[illegible]

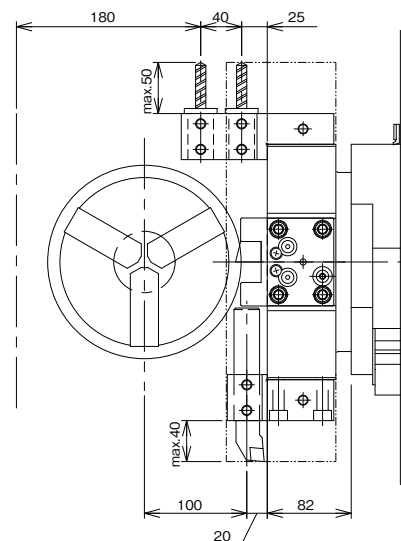
Boring range

O.D. turning range



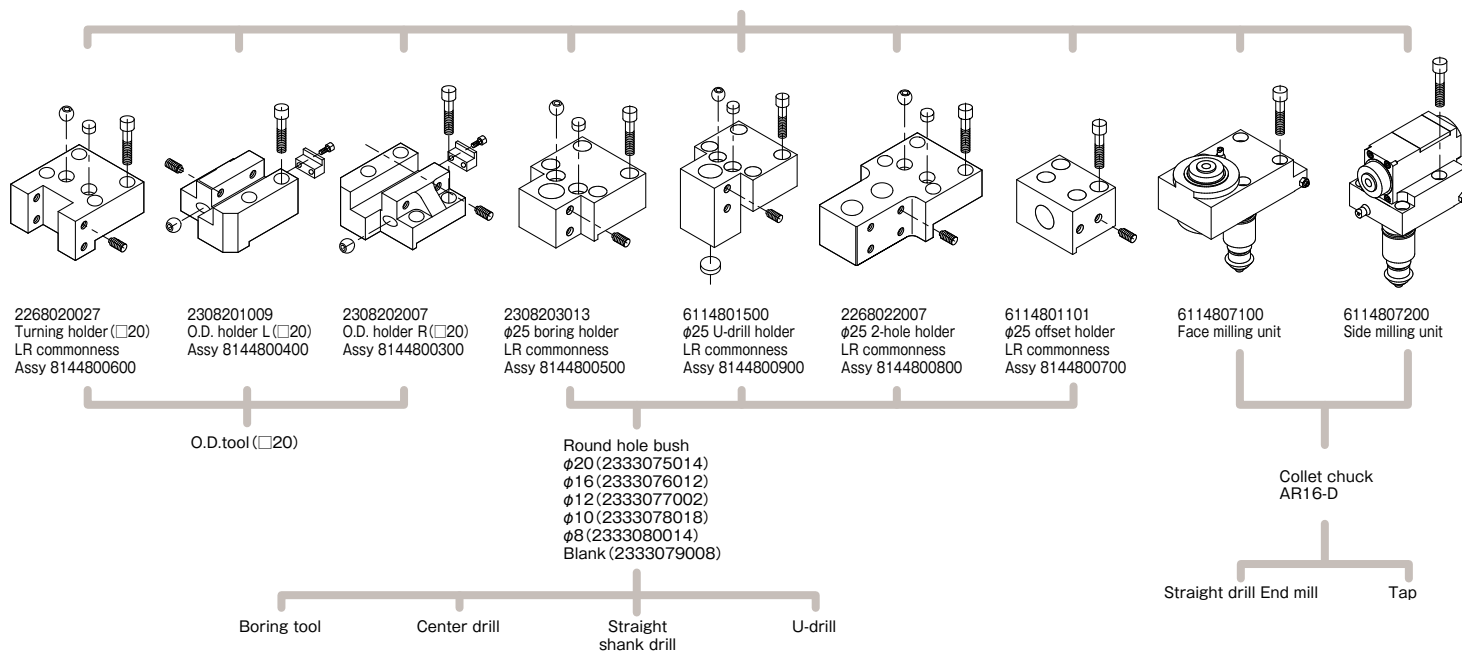
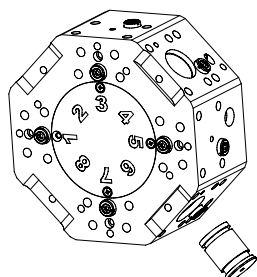
Turning range with  
2-hole holders

Turning range



18

# XW-80M



### ⚠ Attention

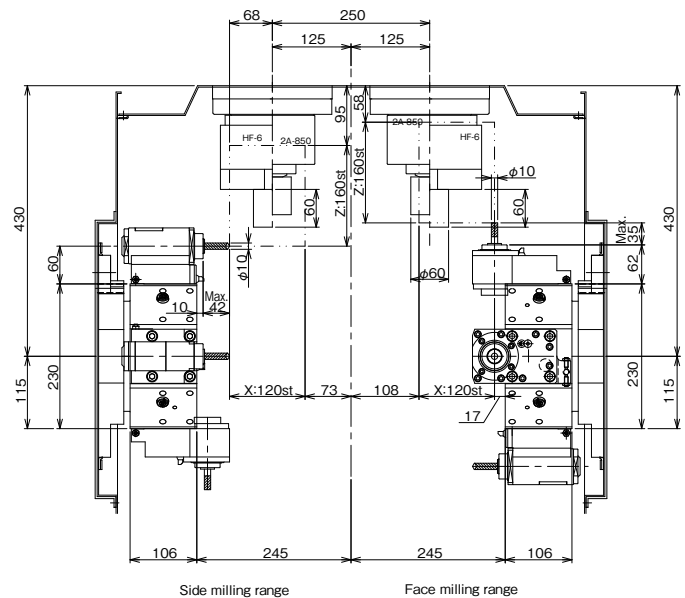
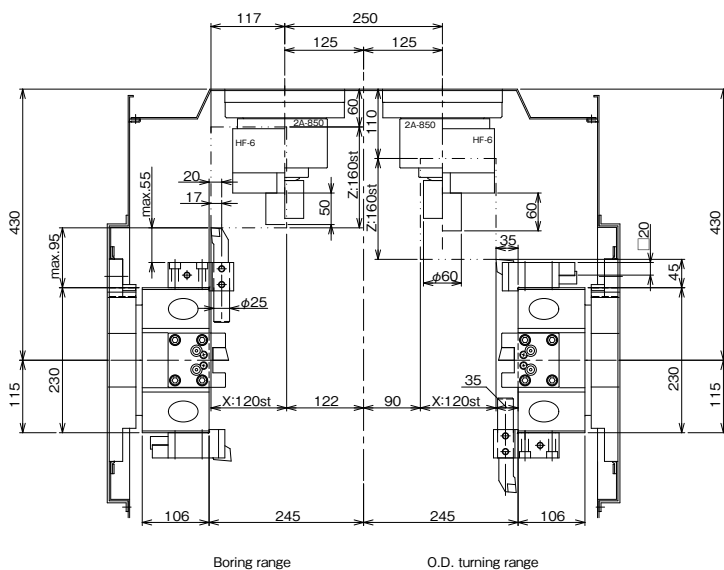
The standard holders that can be mounted on a milling unit mounting surface are basically a face and side milling units only. For special milling units, please contact our sales office.



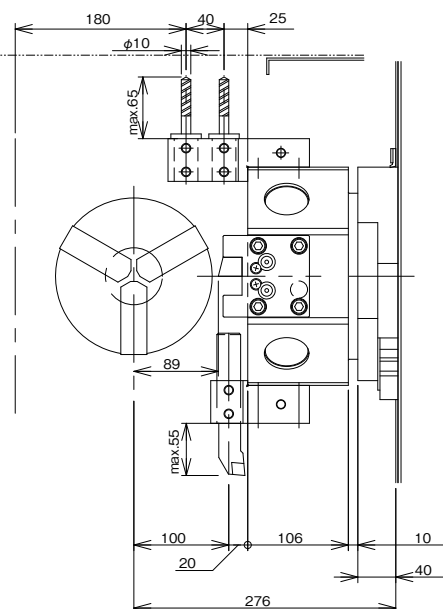
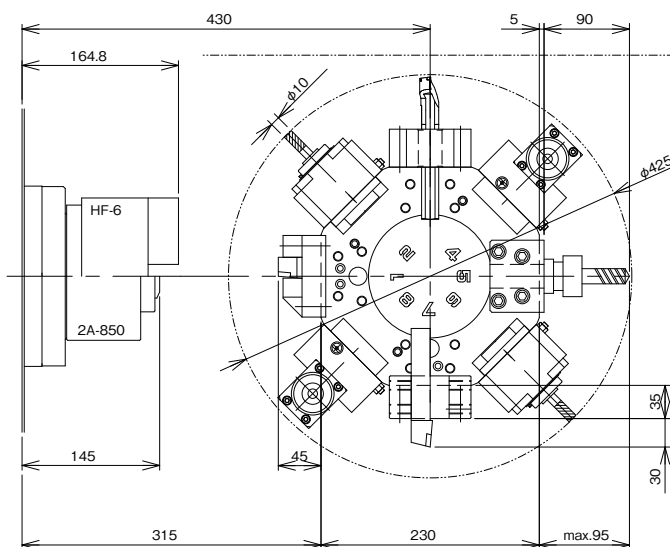
# STROKE & TURRET

## Stroke-Related Drawing

### XW-80<sub>M</sub>

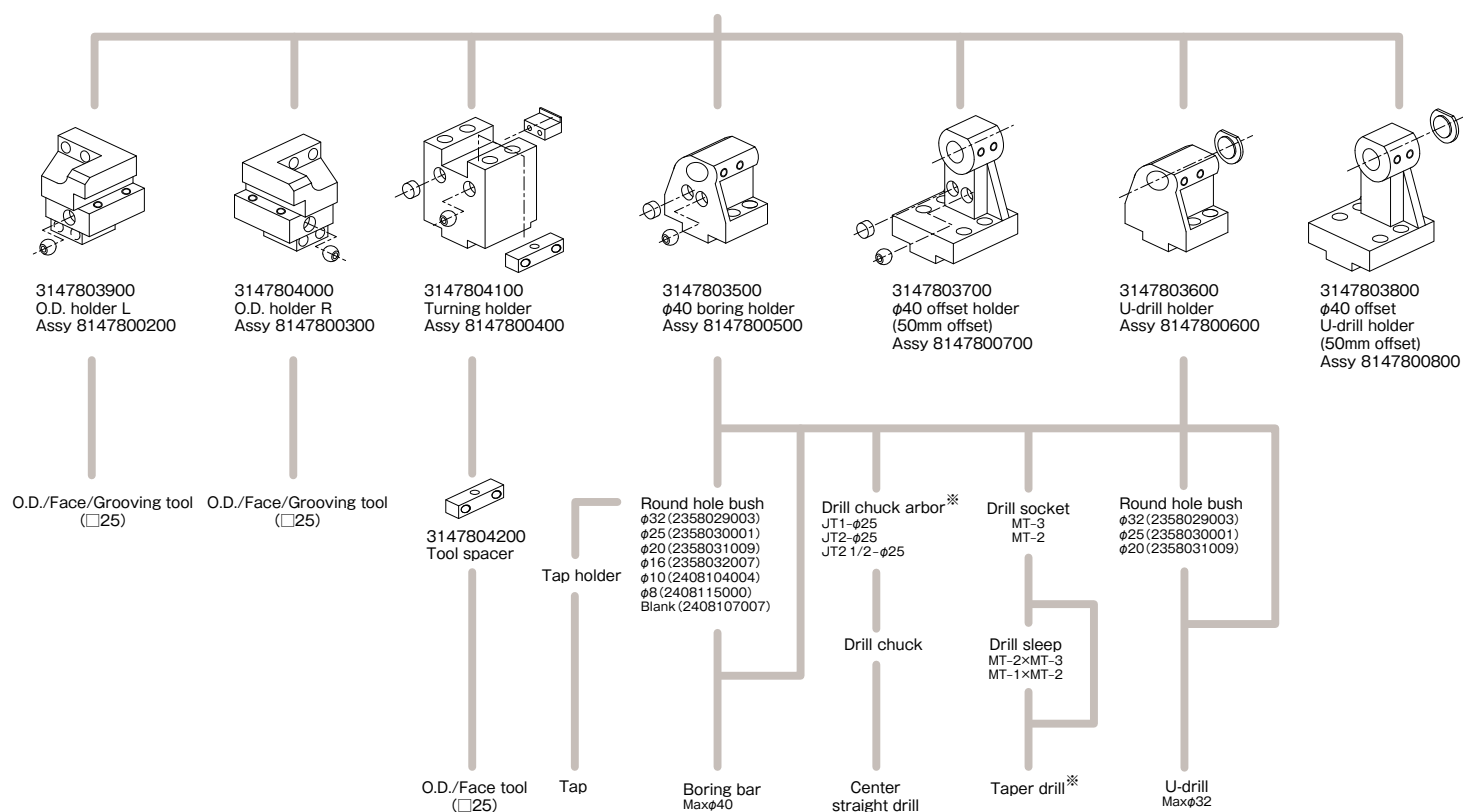
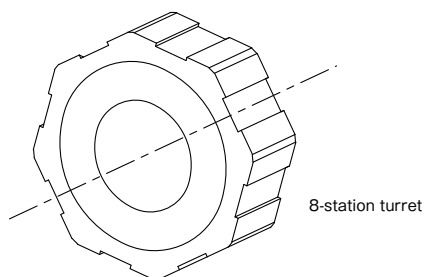


## Turret Interference



Unit(mm)

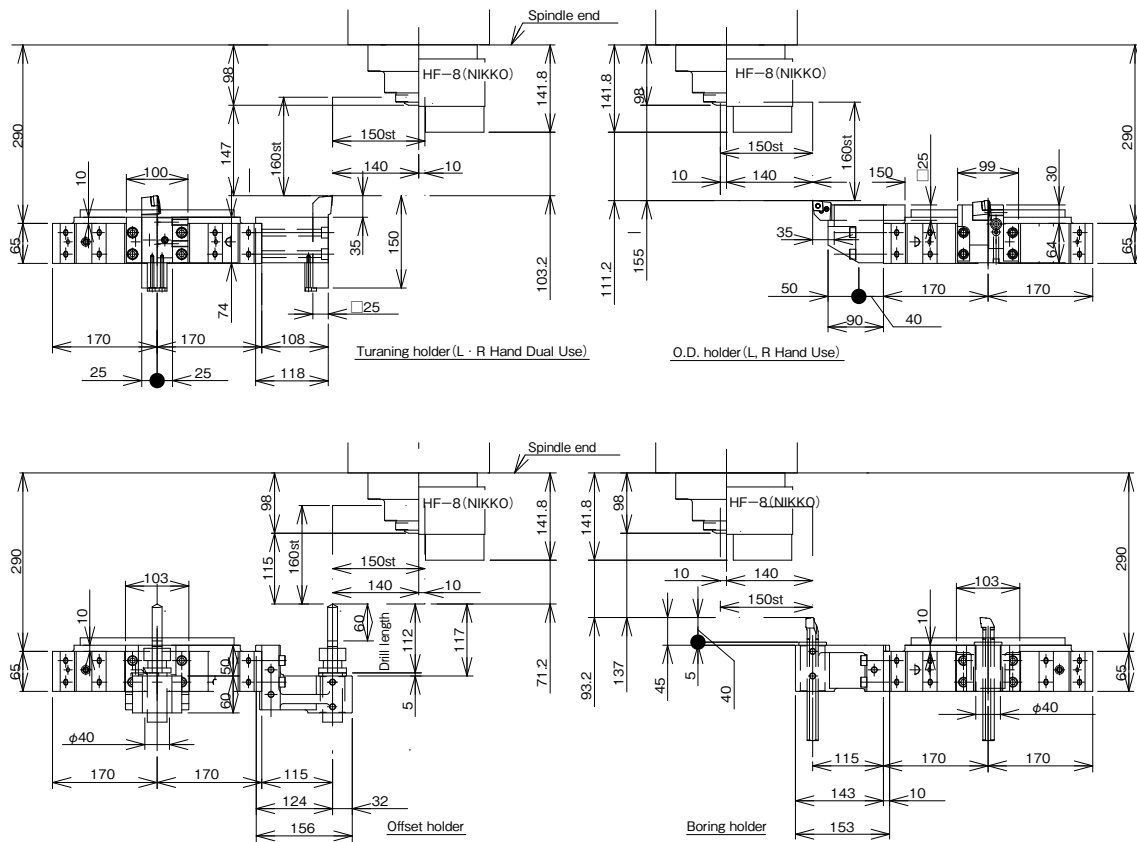
# XW-130



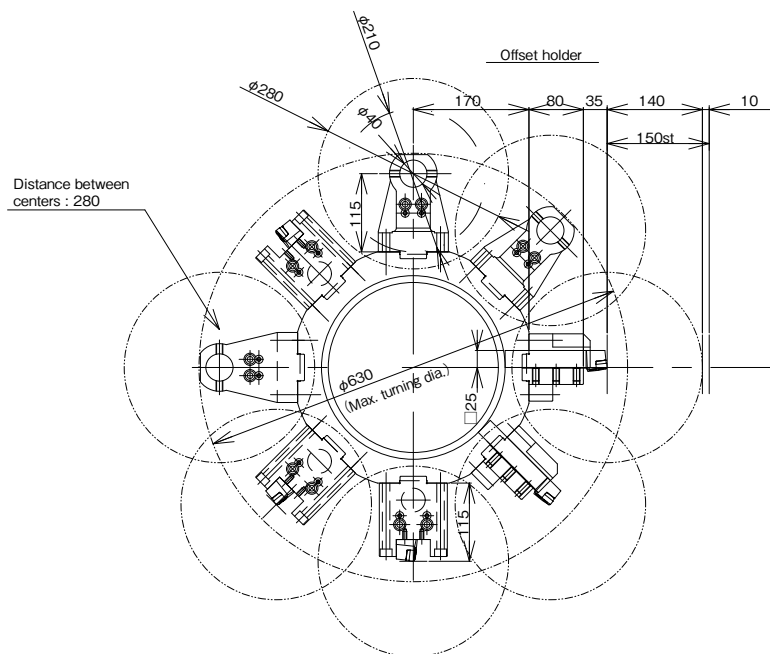
※When setup the drill, tooling space has prohibited zone.  
If you need more information, please contact to TAKAMAZ.

## Stroke-Related Drawing

### XW-130

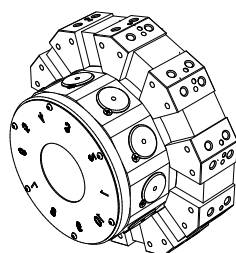


## Turret Interference

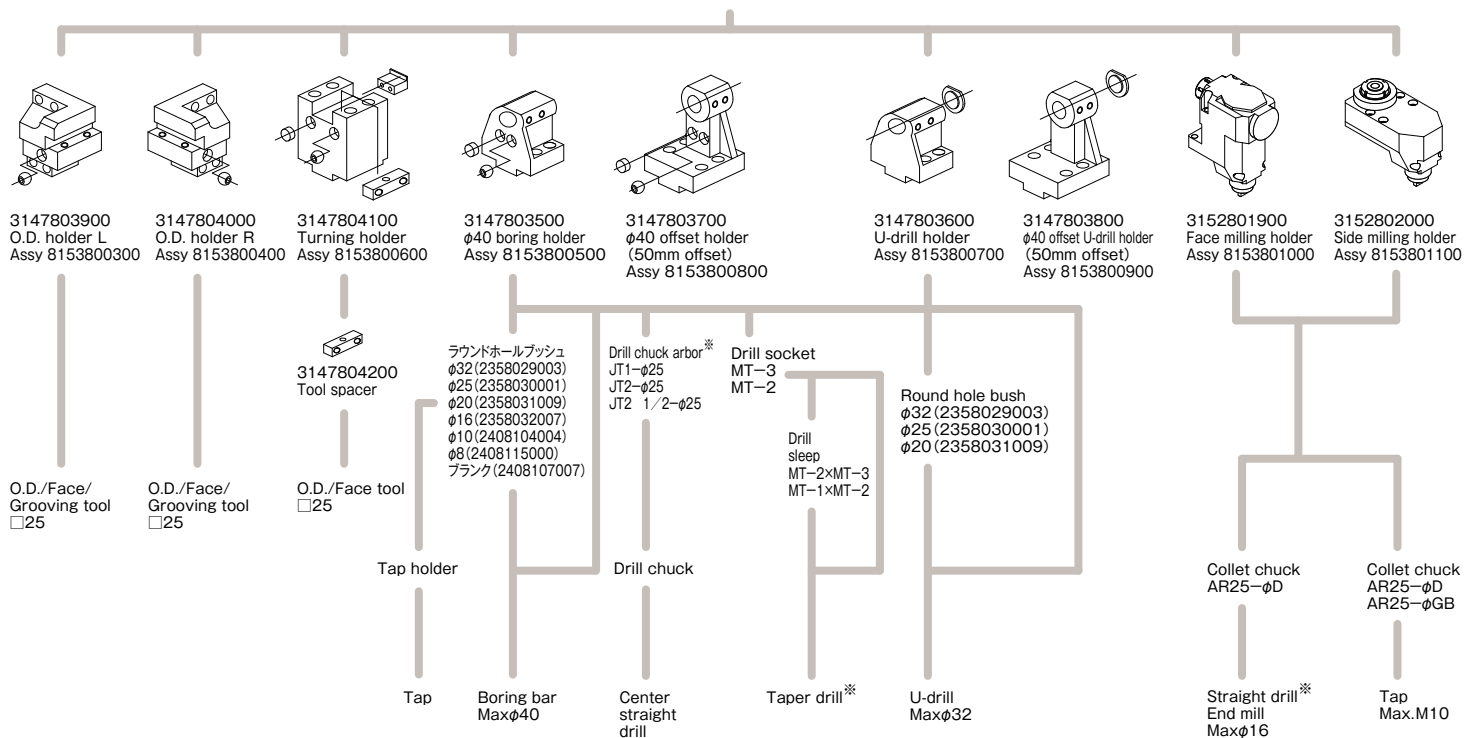


Unit(mm)

# XW-130M



10-station turret



※When setup the drill, tooling space has prohibited zone.  
If you need more information, please contact to TAKAMAZ.

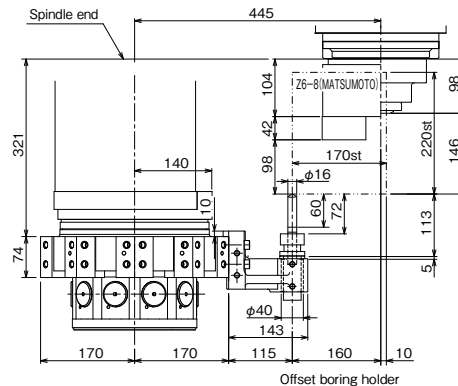


## Stroke-Related Drawing

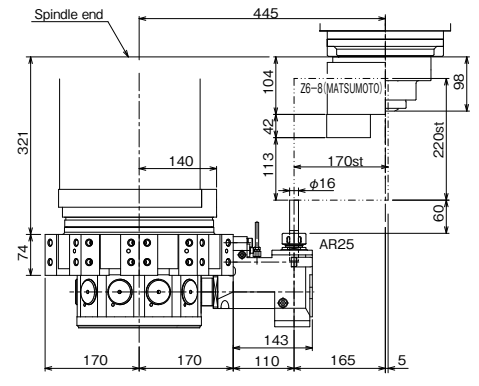
Technical drawing of the Turanor holder (L · R Hand Dual Use) showing dimensions and components. The drawing includes a side view and a top view. Key dimensions and components are labeled:

- Spindle end**: Indicated by an arrow pointing to the top left of the side view.
- 445**: Total length of the holder.
- 321**: Total height of the holder.
- 140**: Distance from the spindle end to the center of the Z6-8 (MATSUMOTO) tool.
- 104**: Distance from the spindle end to the center of the Z6-8 (MATSUMOTO) tool.
- 42**: Distance from the spindle end to the center of the Z6-8 (MATSUMOTO) tool.
- 130**: Distance from the spindle end to the center of the Z6-8 (MATSUMOTO) tool.
- 170st**: Distance from the spindle end to the center of the Z6-8 (MATSUMOTO) tool.
- 98**: Distance from the spindle end to the center of the Z6-8 (MATSUMOTO) tool.
- 220st**: Distance from the spindle end to the center of the Z6-8 (MATSUMOTO) tool.
- 178**: Distance from the spindle end to the center of the Z6-8 (MATSUMOTO) tool.
- 74**: Distance from the spindle end to the center of the Z6-8 (MATSUMOTO) tool.
- 170**: Distance from the spindle end to the center of the Z6-8 (MATSUMOTO) tool.
- 170**: Distance from the spindle end to the center of the Z6-8 (MATSUMOTO) tool.
- 115**: Distance from the spindle end to the center of the Z6-8 (MATSUMOTO) tool.
- 160**: Distance from the spindle end to the center of the Z6-8 (MATSUMOTO) tool.
- 10**: Distance from the spindle end to the center of the Z6-8 (MATSUMOTO) tool.
- Z6-8 (MATSUMOTO)**: Tool name.
- 25**: Distance from the spindle end to the center of the Z6-8 (MATSUMOTO) tool.
- 150**: Distance from the spindle end to the center of the Z6-8 (MATSUMOTO) tool.
- 170st**: Distance from the spindle end to the center of the Z6-8 (MATSUMOTO) tool.
- 220st**: Distance from the spindle end to the center of the Z6-8 (MATSUMOTO) tool.
- 178**: Distance from the spindle end to the center of the Z6-8 (MATSUMOTO) tool.
- 98**: Distance from the spindle end to the center of the Z6-8 (MATSUMOTO) tool.
- 42**: Distance from the spindle end to the center of the Z6-8 (MATSUMOTO) tool.
- 104**: Distance from the spindle end to the center of the Z6-8 (MATSUMOTO) tool.
- 130**: Distance from the spindle end to the center of the Z6-8 (MATSUMOTO) tool.
- 140**: Distance from the spindle end to the center of the Z6-8 (MATSUMOTO) tool.
- 321**: Total height of the holder.
- 445**: Total length of the holder.
- Turanor holder (L · R Hand Dual Use)**: Title of the drawing.

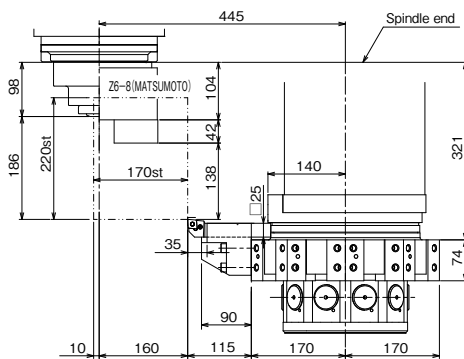
Turining holder(L · R Hand Dual Use)



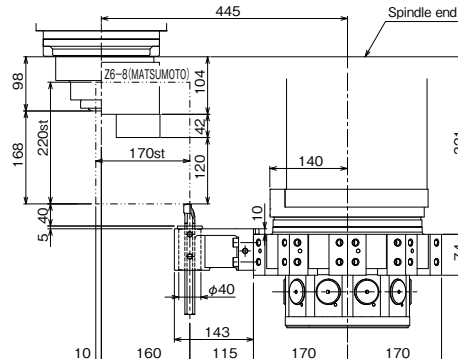
Offset boring holder



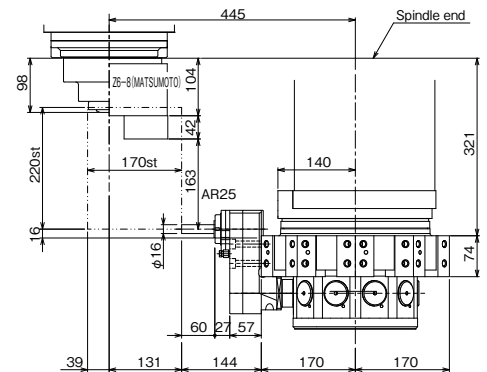
Face milling holder



O.D. holder (L,R Hand Use)



Boring holder

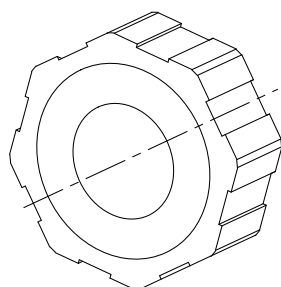


Side milling holder

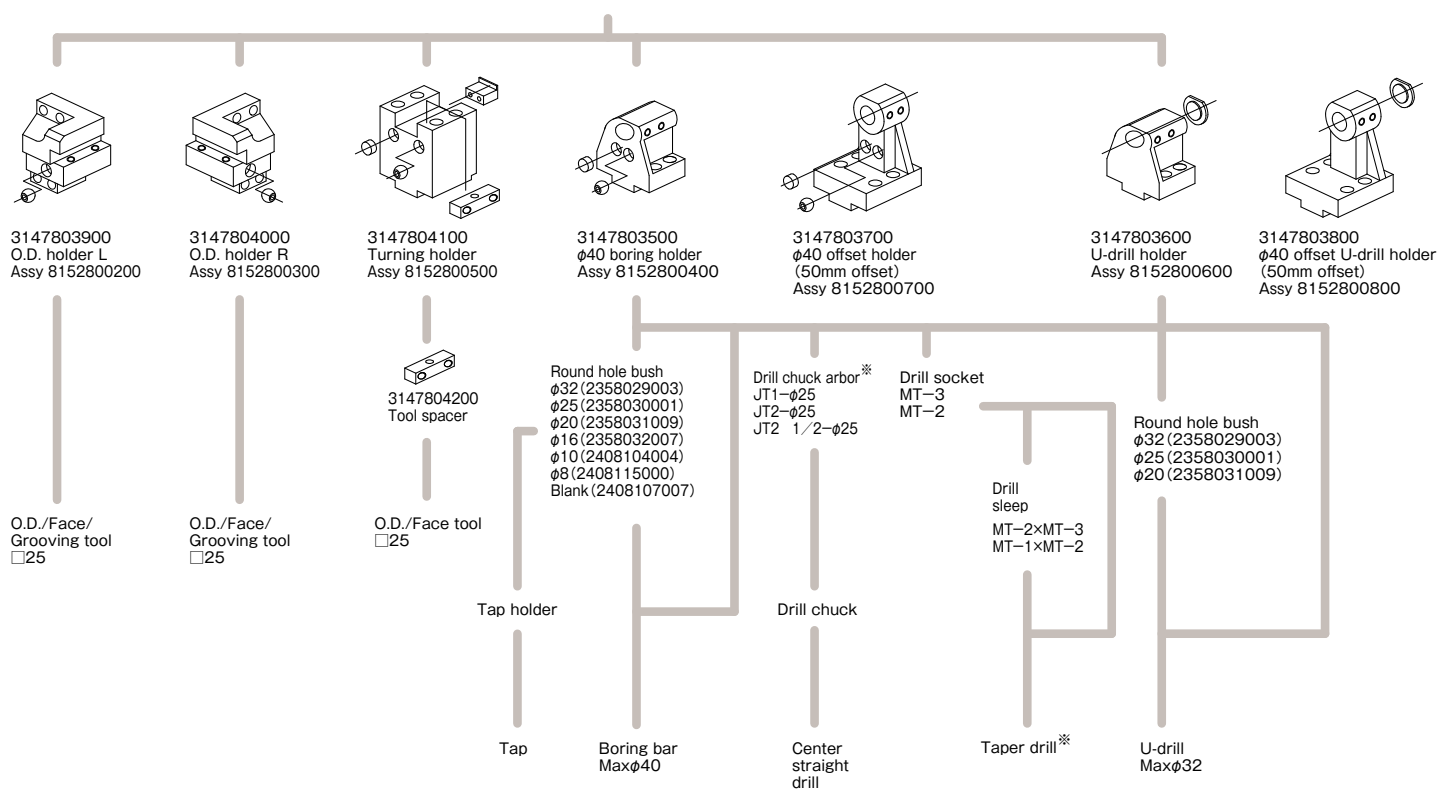
[illegible]

Unit(mm)

# XW-200



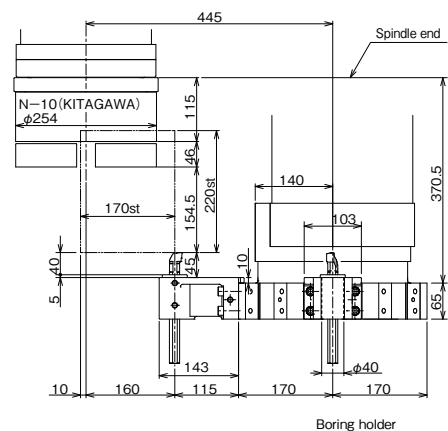
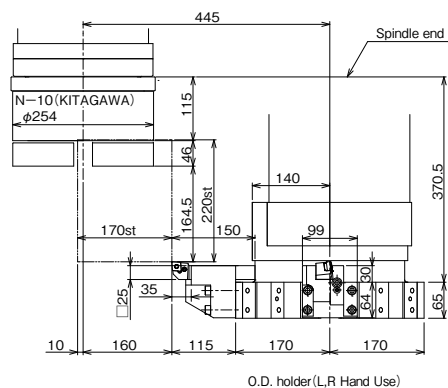
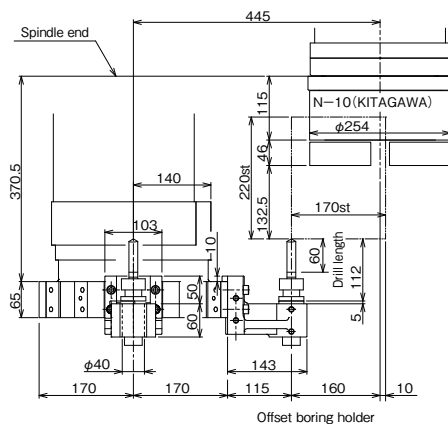
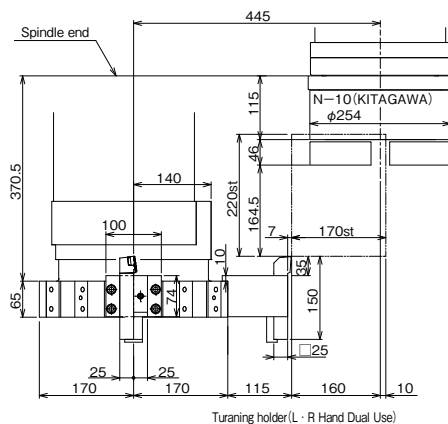
8-station turret



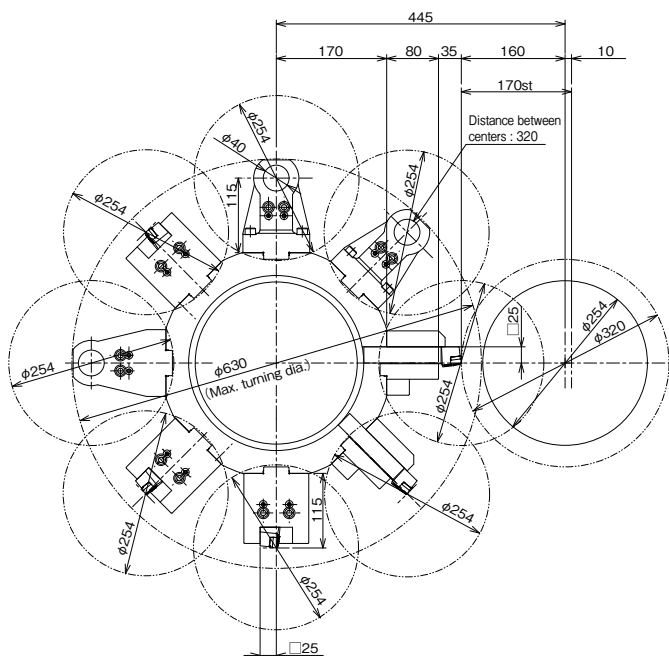
※When setup the drill, tooling space has prohibited zone.  
If you need more information, please contact to TAKAMAZ.

## Stroke-Related Drawing

# XW-200



## Turret Interference



Unit (mm)

# SPECIFICATION

## Machine Specifications

| Item        |                         | Unit              | XW-30                                     | XW-30PLUS                                 | XW-80  | XW-80M   |
|-------------|-------------------------|-------------------|---|---|--|--|
| Capacity    | Optimum turning size    | mm                | φ30 <sup>*1</sup>                         | φ30                                       | φ60  |  |
|             | Max. turning diameter   | mm                | φ50                                       | φ50                                       | φ170   |  |
|             | Max. turning length     | mm                | 50  | 50  | 125  |  |
|             | Chuck size              | inch              | 3: Air ×2                                 | Collet, 3.4×2                             | Collet, 6 ×2   |  |
| Spindle     | Spindle nose            | JIS               | A3-S2                                     | A2-3                                      | A2-5   |  |
|             | Spindle bearing I.D.    | mm                | φ50                                       | φ60                                       | φ75  |  |
|             | Through-hole on spindle | mm                | φ20 <sup>*2</sup>                         | φ25                                       | φ46  |  |
|             | Spindle speed           | min <sup>-1</sup> | Max. 10,000 <sup>*3</sup>                 | Max. 8,000 (6,000 <sup>*4</sup> )         | Max. 4,500 (6,000)   |  |
|             | Spindle indexing        | deg./min          | —   | —   | —  | Cs-axis<br>18,000  |
| Tool post   | Type                    |                   | Gang type×2                               | Gang type×2                               | 8-station turret×2   |  |
|             | Tool shank              | mm                | □16                                       | □16                                       | □20  |  |
|             | Boring holder I.D.      | mm                | φ25                                       | φ25                                       | φ25  |  |
|             | Max. stroke             | mm                | X:160 Z:200                               | X:160 Z:230                               | X:120 Z:160  |  |
|             | Rapid traverse rate     | m/min             | X:12 Z:15                                 | X:12 Z:20                                 | X:18 Z:18  |  |
| Power tools | Tool storage capacity   | pcs.              | —   | —   | —  | 4 (One side)   |
|             | Max. rotating speed     | min <sup>-1</sup> | —   | —   | —  | Max. 4,000   |
|             | Drill                   | mm                | —   | —   | —  | φ10  |
|             | Capacity Endmill        | mm                | —   | —   | —  | φ10  |
|             | Tap                     | mm                | —   | —   | —  | M4~M6  |
| Motors      | Spindle motor           | kW                | AC 3.7/2.2 ×2                             | AC 5.5/3.7×2                              | AC 5.5/3.7 (7.5/5.5) ×2  |  |
|             | Feed motor              | kW                | X:AC 0.75×2 Z:AC 0.75×2                   | X:AC 0.4×2 Z:AC 0.75×2                    | X:AC 0.75×2 Z:AC 1.2×2   |  |
|             | Coolant motor           | kW                | AC 0.18 ×2                                | AC 0.25×2                                 | AC 0.25×2  |  |
|             | Hydraulic motor         | kW                | —   | —   | AC 0.75×2  |  |
|             | Power tools motor       | kW                | —   | —   | —  | AC 2.5   |
| Size        | L×W×H                   | mm                | 1,000 (1,300 <sup>*5</sup> ) ×2,000×1,500 | 1,040 (1,340 <sup>*5</sup> ) ×2,120×1,500 | 1,720 (2,000 <sup>*5</sup> ) ×1,825×1,975 (2,500 <sup>*5</sup> ) | 1,720 (2,140 <sup>*5</sup> ) ×1,825×2,000 (2,525 <sup>*5</sup> ) |
|             | Machine weight          | kg                | 2,700                                     | 3,400                                     | 4,500  | 5,500  |
|             | Total electric capacity | KVA               | 20  | 20 (23 <sup>*4</sup> )                    | 29 (36: AC 7.5/5.5)  | 31 (37: AC 7.5/5.5)  |

\*1 Some restrictions may apply depending on the chuck type or tool storage capacity. \*2 Air blow only. Bar materials cannot be handled.

( ): Option

\*3 Some restrictions may apply depending on the chucking cylinder type. \*4 The value when the hydraulic unit is mounted. \*5 When the loader is mounted.

## Standard Accessories

| Item   | XW-30        | XW-30PLUS   | XW-80  | XW-80M         |
|--|--------------|-------------|--------|----------------|
| □Tool holder   | 4sets        |             | —      | —              |
| □Boring holder   | —            |             | —      | 4sets          |
| □O.D. holder   | —            |             | —      | 4sets          |
| □TAKAMAZ collet chuck  | (Option)     |             | —      | 1set           |
| □Collet flange   | 1set (TZ650) |             | —      | 1set           |
| □Hydraulic chucking cylinder                                   | —            | (Option)    | —      | 1set           |
| □Air chucking cylinder   | 1set         |             | —      | —              |
| □TAKAMAZ loader system   | —            |             | 1 unit | —              |
| □Spindle indexer   | —            |             | —      | 1set (Cs-axis) |
| □Power tools drive unit  | —            |             | —      | 1set           |
| □Spindle cooling device※                                       | —            |             | 1set   | —              |
| □Thread cutting unit(Including constant surface speed control) | —            |             | 1set   | —              |
| □Front air blower  | 1set         |             | —      | (Option)       |
| □Coolant unit  | 1set (140ℓ)  | 1set (160ℓ) | —      | 1set (260ℓ)    |
| □Work light  | (Option)     |             | —      | 1set           |
| □Service tool kit  | —            |             | 1set   | —              |
| □TAKAMAZ Instruction manual                                    | —            |             | 1set   | —              |

※ Oil Temperature Control Type is available as an option.

## Optional Accessories

| Item   | XW-30                 | XW-30PLUS | XW-80 | XW-80M     |
|--|-----------------------|-----------|-------|------------|
| □Tool holders  | —                     | —         | ○     | —          |
| □Collet chucks   | —                     | —         | ○     | —          |
| □Hydraulic chucks  | —                     | —         | —     | ○          |
| □Chuck clamp detector(with restrictions depending on the cylinder) | —                     | —         | ○     | —          |
| □High-speed loader system  | ○                     | —         | —     | —          |
| □Spindle indexing device   | Electrical/Mechanical |           |       | —          |
| □Power tools   | —                     | —         | —     | ○          |
| □Rear chip conveyor(Floor type/Spiral type)                        | —                     | —         | ○     | —          |
| □Front air blower  | (Standard)            | —         | —     | ○          |
| □Rear air blower   | —                     | —         | ○     | —          |
| □Rear coolant unit   | —                     | —         | ○     | —          |
| □Work light  | ○                     | —         | —     | (Standard) |
| □Signal light(1-color/2-color/3-color)                             | —                     | —         | ○     | —          |
| □Automatic fire extinguisher                                       | —                     | —         | ○     | —          |
| □Automatic power shut-off device                                   | —                     | —         | ○     | —          |
| □Special color   | —                     | —         | ○     | —          |
| □Others※   | —                     | —         | ○     | —          |

※ For more information on attachments, consult our sales representative.



## Machine Specifications

| Item        |                         | Unit              | XW-130                                  | XW-130M                                 | XW-200                                  |
|-------------|-------------------------|-------------------|---|---|---|
| Capacity    | Optimum turning size    | mm                | φ 150                                   | φ 200                                   | φ 200                                   |
|             | Max. turning diameter   | mm                | φ 280                                   | φ 320                                   | φ 320                                   |
|             | Max. turning length     | mm                | 155                                     | 220                                     | 220                                     |
| Spindle     | Chuck size              | inch              | Collet, 8 × 2                           |   | 10 × 2                                  |
|             | Spindle nose            | JIS               | A2-6                                    |   | A2-8                                    |
|             | Spindle bearing I.D.    | mm                | φ 100                                   |   | φ 120                                   |
|             | Through-hole on spindle | mm                | φ 61                                    |   | φ 80                                    |
|             | Spindle speed           | min <sup>-1</sup> | Max. 4,000                              |   | Max. 2,800                              |
|             | Spindle indexing        | deg./min          | —                                       |   | —                                       |
| Tool post   | Type                    |                   | 8-station turret × 2                    | 10-station turret × 2                   | 8-station turret × 2                    |
|             | Tool shank              | mm                | □ 25                                    |   | □ 25                                    |
|             | Boring holder I.D.      | mm                | φ 40                                    |   | φ 40                                    |
|             | Max. stroke             | mm                | X: 150 Z: 160                           | X: 170 Z: 220                           | X: 170 Z: 220                           |
|             | Rapid traverse rate     | m/min             | X: 24 Z: 24                             |   | X: 24 Z: 24                             |
| Power tools | Tool storage capacity   | pcs.              | —                                       | 10 (One side)                           | —                                       |
|             | Max. rotating speed     | min <sup>-1</sup> | —                                       | Max. 4,000                              | —                                       |
|             | Drill                   | mm                | —                                       | φ 16                                    | —                                       |
|             | Capacity Endmill        | mm                | —                                       | φ 16                                    | —                                       |
|             | Tap                     | mm                | —                                       | M4~M10                                  | —                                       |
| Motors      | Spindle motor           | kW                | AC 11/7.5 × 2                           |   | AC 18.5/15 × 2                          |
|             | Feed motor              | kW                | X: AC 1.2 × 2 Z: AC 1.8 × 2             |   | X: AC 1.2 × 2 Z: AC 1.8 × 2             |
|             | Coolant motor           | kW                | AC 0.25 × 2                             |   | AC 0.25 × 2                             |
|             | Hydraulic motor         | kW                | AC 0.75 × 2                             |   | AC 0.75 × 2                             |
|             | Power tools motor       | kW                | —                                       | AC 3.7/2.2                              | —                                       |
| Size        | L × W × H               | mm                | 1,890 (2,250*) × 2,140 × 2,050 (2,925*) | 1,990 (2,350*) × 2,330 × 2,100 (3,080*) | 1,990 (2,350*) × 2,330 × 2,100 (3,080*) |
|             | Machine weight          | kg                | 5,600                                   | 6,900                                   | 6,900                                   |
|             | Total electric capacity | KVA               | 44                                      | 47                                      | 62                                      |

※ When the loader is mounted.

## Standard Accessories

| Item  | XW-130      | XW-130M       | XW-200      |
|---|-------------|---------------|-------------|
| <input type="checkbox"/> Boring holder  |             | 4sets         |             |
| <input type="checkbox"/> O.D. holder  |             | 4sets         |             |
| <input type="checkbox"/> Hydraulic chucks   |             | 1set          |             |
| <input type="checkbox"/> Hydraulic chucking cylinder  |             | 1set          |             |
| <input type="checkbox"/> Chuck clamp detector (with restrictions depending on the cylinder) | (Option)    |               | 1set        |
| <input type="checkbox"/> TAKAMAZ loader system  |             | 1unit         |             |
| <input type="checkbox"/> Spindle indexer  | —           | 1set (C-axis) | —           |
| <input type="checkbox"/> Power tools drive unit   | —           | 1set          | —           |
| <input type="checkbox"/> Spindle cooling device※  |             | 1set          |             |
| <input type="checkbox"/> Rear chip conveyor (Floor type / Spiral type)                      | (Option)    |               | Floor Type  |
| <input type="checkbox"/> Thread cutting unit (including constant surface speed control)     |             | 1set          |             |
| <input type="checkbox"/> Coolant unit   | 1set (160ℓ) |               | 1set (200ℓ) |
| <input type="checkbox"/> Work light   |             | 1set          |             |
| <input type="checkbox"/> Service tool kit   |             | 1set          |             |
| <input type="checkbox"/> TAKAMAZ Instruction manual   |             | 1set          |             |

※ Oil Temperature Control Type is available as an option.

## Optional Accessories

| Item  | XW-130 | XW-130M                | XW-200                  |
|---|--------|------------------------|-------------------------|
| <input type="checkbox"/> Tool holders   |        | ○                      |                         |
| <input type="checkbox"/> Collet chucks  |        | ○                      | —                       |
| <input type="checkbox"/> Chuck clamp detector (with restrictions depending on the cylinder) | ○      |                        | (Standard)              |
| <input type="checkbox"/> Spindle indexing device  |        | Electrica / Mechanical |                         |
| <input type="checkbox"/> Power tools  | —      | ○                      | —                       |
| <input type="checkbox"/> Rear chip conveyor (Floor type / Spiral type)                      | ○      |                        | (Standard : Floor type) |
| <input type="checkbox"/> Front air blower   |        | ○                      |                         |
| <input type="checkbox"/> Rear air blower  | ○      |                        | —                       |
| <input type="checkbox"/> Rear coolant unit  |        | ○                      |                         |
| <input type="checkbox"/> Signal light (1-color / 2-color / 3-color)                         |        | ○                      |                         |
| <input type="checkbox"/> Automatic fire extinguisher  |        | ○                      |                         |
| <input type="checkbox"/> Automatic power shut-off device                                    |        | ○                      |                         |
| <input type="checkbox"/> Special color  |        | ○                      |                         |
| <input type="checkbox"/> Others※  |        | ○                      |                         |

※ For more information on attachments, consult our sales representative.

# SPECIFICATION

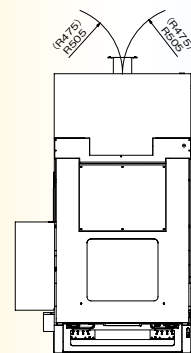
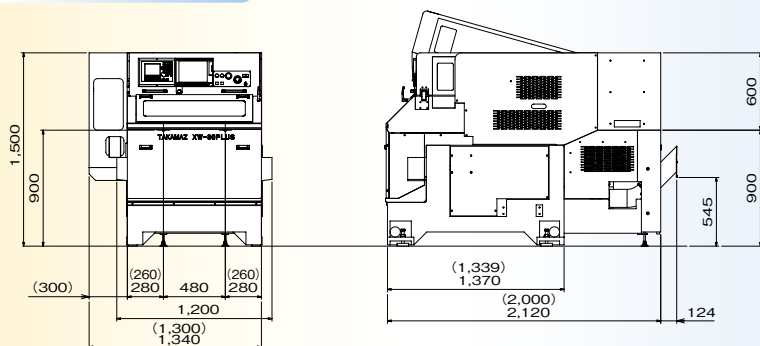
## Controller Specifications

| Item   | XW-30<br>TAKAMAZ & MITSUBISHI M70                         | XW-30PLUS<br>TAKAMAZ & MITSUBISHI M70V | XW-80<br>TAKAMAZ & FANUC Oi-TD            | XW-80M<br>TAKAMAZ & FANUC Oi-TD | XW-130<br>TAKAMAZ & FANUC Oi-TD | XW-130M<br>TAKAMAZ & FANUC Oi-TD | XW-200<br>TAKAMAZ & FANUC Oi-TD |
|--|---|--|---|---------------------------------|---------------------------------|----------------------------------|---------------------------------|
| Controlled axes                                  | 2axes(X,Z) ×2   |  | 3axes(X,Z,C) ×2                           |                                 | 2axes(X,Z) ×2                   | 3axes(X,Z,C) ×2                  | 2axes(X,Z) ×2                   |
| Simultaneously controllable axes                 | Simultaneous 2 axes ×2                                    |  | Simultaneous 3 axes ×2                    |                                 | Simultaneous 2 axes ×2          | Simultaneous 3 axes ×2           | Simultaneous 2 axes ×2          |
| Least input increment                            | 0.0001mm(X in diameter)                                   |  | 0.001mm (X in diameter)                   |                                 |                                 |                                  |                                 |
| Least command increment                          | X:0.00005mm Z:0.0001mm                                    |  | X:0.0005mm Z:0.001mm                      |                                 |                                 |                                  |                                 |
| Auxiliary function                               |   |  | M-code 3 digit                            |                                 |                                 |                                  |                                 |
| Spindle function                                 | S-code 5 digit  |  | S-code 4 digit                            |                                 |                                 |                                  |                                 |
| Tool function                                    | T-code 2 digit  |  | T-code 4 digit                            |                                 |                                 |                                  |                                 |
| Tape code  |   |  | EIA(RS232C)/ISO(840)automatic recognition |                                 |                                 |                                  |                                 |
| Cutting feedrate                                 |   |  | 1~5,000mm/min                             |                                 |                                 |                                  |                                 |
| Command system                                   |   |  | Incremental/Absolute                      |                                 |                                 |                                  |                                 |
| Linear interpolation                             |   |  | G01                                       |                                 |                                 |                                  |                                 |
| Circular interpolation                           |   |  | G02,G03                                   |                                 |                                 |                                  |                                 |
| Cutting feedrate override                        |   |  | 0~150%                                    |                                 |                                 |                                  |                                 |
| Rapid traverse override                          |   |  | F0,100%                                   |                                 |                                 |                                  |                                 |
| Program number                                   | Program file name 32 characters                           |  | 4 digit                                   |                                 | Program file name 32 characters |                                  |                                 |
| Backlash compensation                            | 0~999999.9μm  |  | 0~9999μm                                  |                                 |                                 |                                  |                                 |
| Program memory capacity                          | 230Kbyte(600m) 500Kbyte(1,280m)                           |  | 1Mbyte(2,560m)(Dual systems total)        |                                 |                                 |                                  |                                 |
| Tool offsets                                     | 80sets(Dual systems total)                                |  | 128sets (Dual systems total)              |                                 |                                 |                                  |                                 |
| Registered programs                              | 400pcs.(Dual systems total) 1,000pcs.(Dual systems total) |  | 800pcs.(Dual systems total)               |                                 |                                 |                                  |                                 |
| Tool geometry / Wear offset                      |   |  | Standard                                  |                                 |                                 |                                  |                                 |
| Canned cycle                                     |   |  | G90,G92,G94                               |                                 |                                 |                                  |                                 |
| Radius designation on arc                        |   |  | Standard                                  |                                 |                                 |                                  |                                 |
| Tool offset measurement input                    |   |  | Standard                                  |                                 |                                 |                                  |                                 |
| Background editing                               |   |  | Standard                                  |                                 |                                 |                                  |                                 |
| Direct drawing dimension programming             |   |  | Standard                                  |                                 |                                 |                                  |                                 |
| Custom macro                                     |   |  | Standard                                  |                                 |                                 |                                  |                                 |
| Additional custom macro common variables         |   |  | #100~#199,#500~#999                       |                                 |                                 |                                  |                                 |
| Pattern data input                               | Standard(Equivalent Functions)                            |  | Standard                                  |                                 |                                 |                                  |                                 |
| Nose R compensation                              |   |  | G40,G41,G42                               |                                 |                                 |                                  |                                 |
| Inch/Metric conversion                           |   |  | G20/G21                                   |                                 |                                 |                                  |                                 |
| Programmable data input                          |   |  | G10                                       |                                 |                                 |                                  |                                 |
| Run hour / Parts count display                   | Standard(Equivalent Functions)                            |  | Standard                                  |                                 |                                 |                                  |                                 |
| Extended part program editing                    |   |  | Standard                                  |                                 |                                 |                                  |                                 |
| Multiple repetitive cycle                        |   |  | G70~G76                                   |                                 |                                 |                                  |                                 |
| Multiple repetitive cycle II                     |   |  | Pocket-shaped                             |                                 |                                 |                                  |                                 |
| Canned drilling cycle                            |   |  | Standard                                  |                                 |                                 |                                  |                                 |
| Chamfering / Corner R                            | Standard  |  | (Option)                                  |                                 |                                 |                                  |                                 |
| Constant surface speed control                   |   |  | G96,G97                                   |                                 |                                 |                                  |                                 |
| Continuous thread cutting                        |   |  | G32                                       |                                 |                                 |                                  |                                 |
| Variable lead thread cutting                     |   |  | G34                                       |                                 |                                 |                                  |                                 |
| Thread cutting retract                           |   |  | Standard                                  |                                 |                                 |                                  |                                 |
| Clock function                                   |   |  | Standard                                  |                                 |                                 |                                  |                                 |
| Help function                                    |   |  | Standard                                  |                                 |                                 |                                  |                                 |
| Alarm history display                            | 512pcs.   |  | 50pcs.                                    |                                 |                                 |                                  |                                 |
| Self-diagnosis function                          |   |  | Standard                                  |                                 |                                 |                                  |                                 |
| Sub-program call                                 | Up to 8 loops   |  | Up to 10 loops                            |                                 |                                 |                                  |                                 |
| Decimal point input                              |   |  | Standard                                  |                                 |                                 |                                  |                                 |
| 2nd reference point return                       |   |  | G30                                       |                                 |                                 |                                  |                                 |
| Work coordinate system setting                   |   |  | G50,G54~G59                               |                                 |                                 |                                  |                                 |
| Rigid tapping                                    | —   |  |   |                                 |                                 | For Power Tools only             | —                               |
| Polar coordinate interpolation                   | —   |  | Standard                                  |                                 | —                               | Standard                         | —                               |
| Cylindrical interpolation                        | —   |  | Standard                                  |                                 | —                               | Standard                         | —                               |
| Stored stroke check 1                            |   |  | Standard                                  |                                 |                                 |                                  |                                 |
| Input / Output interface                         |   |  | Memory card,Ethernet                      |                                 |                                 |                                  |                                 |
| Input / Output interface(RS232C)                 | Standard  |  |   |                                 | (Option)                        |                                  |                                 |
| Input / Output interface(USBFlash Memory)        | —   |  | Standard*                                 |                                 |                                 |                                  |                                 |
| Alarm message                                    |   |  | Standard                                  |                                 |                                 |                                  |                                 |
| Graphic display(FANUC)                           |   |  | Standard                                  |                                 |                                 |                                  |                                 |
| Graphic trace(MITSUBISHI)                        |   |  |   |                                 |                                 |                                  |                                 |
| Spindle orientation                              |   |  | (Option)                                  |                                 |                                 |                                  |                                 |
| G code guidance                                  | Standard  |  | —   |                                 |                                 |                                  |                                 |
| Simple programming function(FANUC)               | Standard  |  | —   |                                 |                                 |                                  |                                 |
| NAVI LATHE(MITSUBISHI)                           |   |  |   |                                 |                                 |                                  |                                 |
| Dynamic graphic display(FANUC)                   | Standard  |  | (Option)                                  |                                 | —                               |                                  |                                 |
| Graphic check(MITSUBISHI)                        |   |  |   |                                 |                                 |                                  |                                 |
| Tool life management                             | Standard  |  | (Option)                                  |                                 |                                 |                                  |                                 |
| Multiple M codes in one block                    | Max. 3  |  | (Max. 3:Option)                           |                                 |                                 |                                  |                                 |
| Conversational programming with graphic function | —   |  | Standard                                  |                                 |                                 |                                  |                                 |
| Abnormal load detection                          | —   |  | Standard                                  |                                 |                                 |                                  |                                 |
| Manual handle trace                              | —   |  |   |                                 | Standard                        |                                  |                                 |
| Automatic data backup                            | Standard  |  | —   |                                 | Standard                        |                                  |                                 |
| Automatic screen deletion function               | —   |  |   |                                 | Standard                        |                                  |                                 |
| TAKAMAZ option functions                         | —   |  | Work/Tool counter,Tool load monitor,Other |                                 |                                 |                                  |                                 |
| TAKAMAZ maintenance functions                    | —   |  | Standard                                  |                                 |                                 |                                  |                                 |
| Set of Instruction Manuals for Control Device    | CD-ROM  |  | Bound                                     |                                 | CD-ROM                          | DVD-ROM                          |                                 |

\* USB Memory is not standard for CE Specifications.

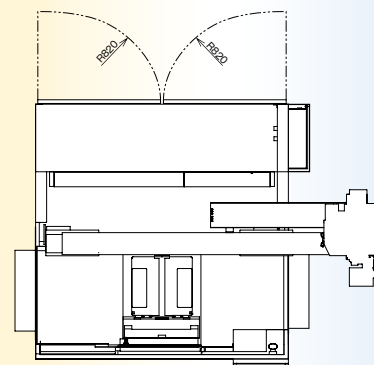
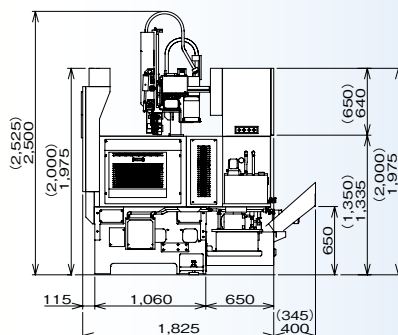
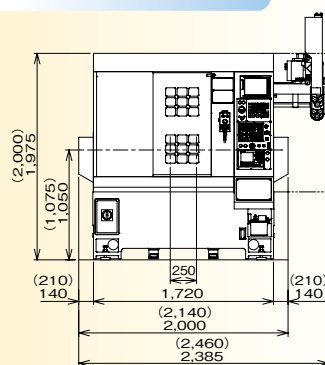
# FLOOR SPACE

## XW-30/XW-30PLUS



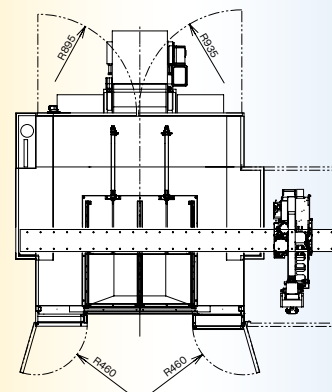
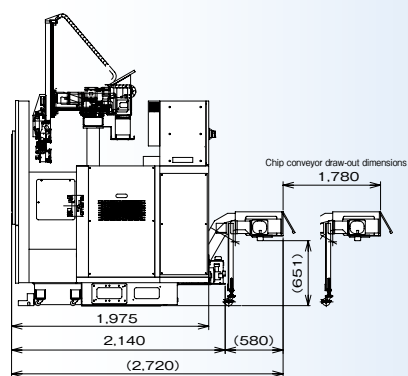
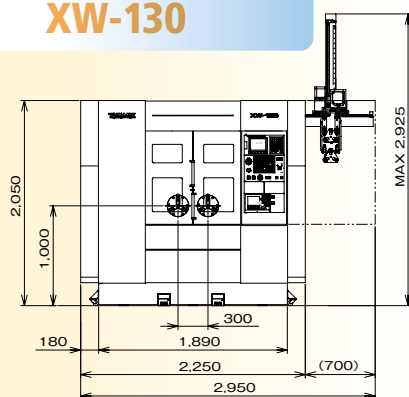
Data in parentheses is for XW-30.

## XW-80/XW-80M

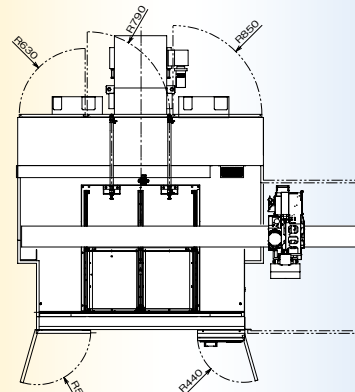
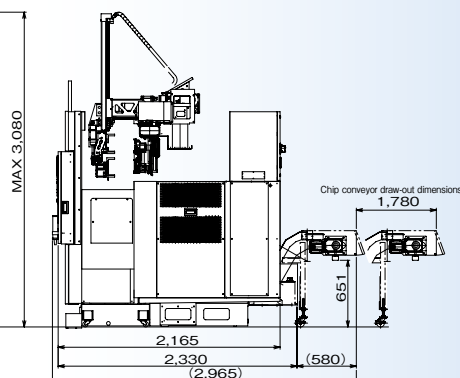
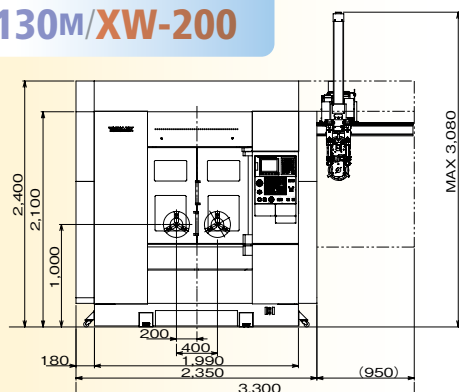


Data in parentheses is for XW-80M.

## XW-130



## XW-130M/XW-200



Unit (mm)



# XW series

# TAKAMAZ

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