

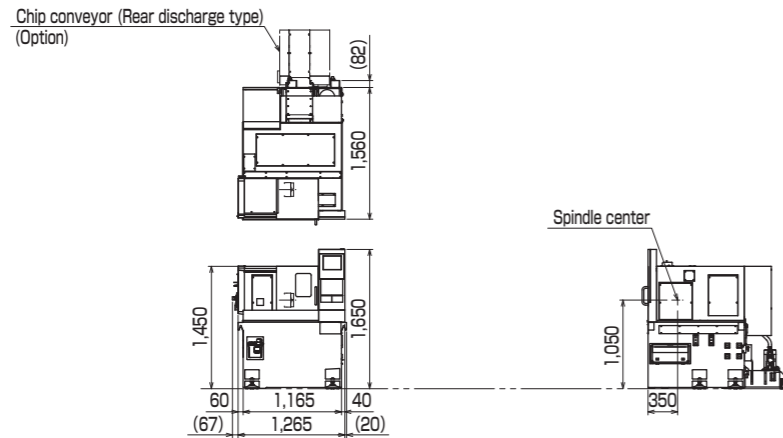
# TSUGAMI

CNC Lathe

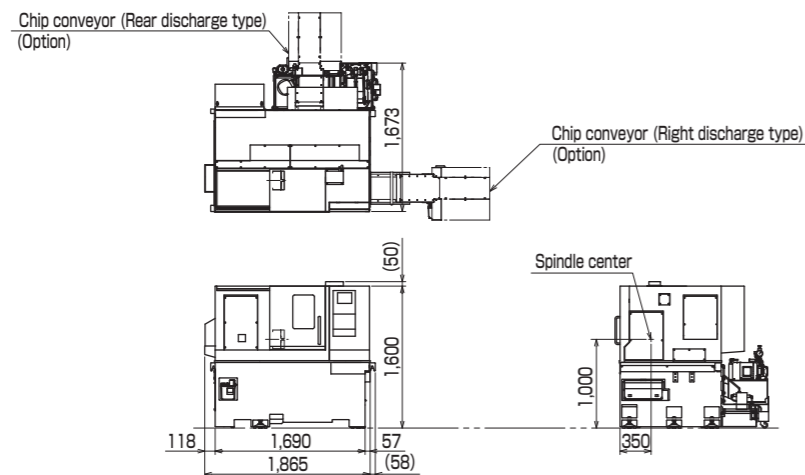
## Mi06JC-II Mi06J-II/Mi08J-II Mi08JL5-II

### Layout

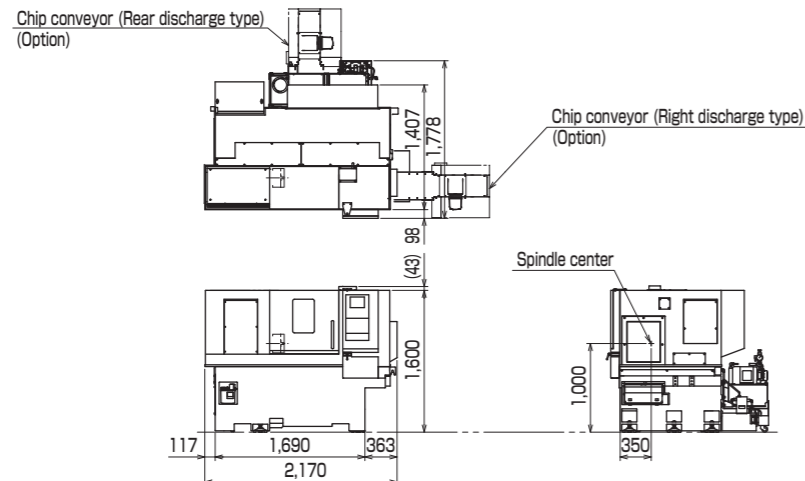
#### Mi06JC-II



#### Mi06J-II Mi08J-II



#### Mi08JL5-II



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The specifications of this catalogue are subject to change without prior notice.

**TSUGAMI CORPORATION**

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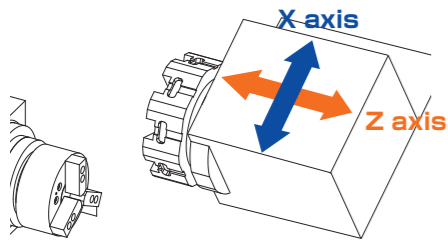


Realizes high accuracy, high rigidity, high productivity, space saving, and overwhelming cost performance.

## Best selection to meet needs

### Mi06JC-II

Space saving basic machine

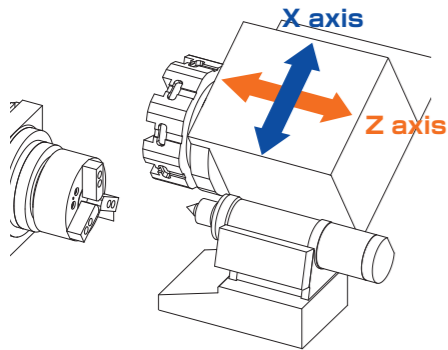


Chuck size: 6 inch  
 Max. machining dia.:  $\phi 220$  mm  
 $\phi 42$  mm (Barstock) (Option)  
 Max. machining length: 190 mm  
 Number of turret stations: 8  
 OD tool size:  $\square 20$  mm  
 Drill holder hole dia.:  $\phi 25$  mm

Note: The figure includes options.

### Mi06J-II/Mi08J-II

Basic machine

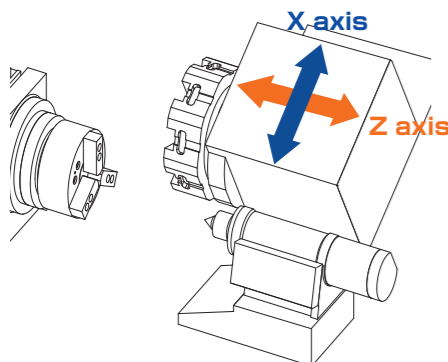


Chuck size: 6 inch  
 Max. machining dia.:  $\phi 260$  mm /  $\phi 280$  mm  
 $\phi 51$  mm /  $\phi 65$  mm (Barstock)  
 Max. machining length: 290 mm  
 Number of turret stations: 8  
 OD tool size:  $\square 25$  mm  
 Drill holder hole dia.:  $\phi 32$  mm,  $\phi 40$  mm

Note: The figure includes options.

### Mi08JL5-II

Long stroke basic machine

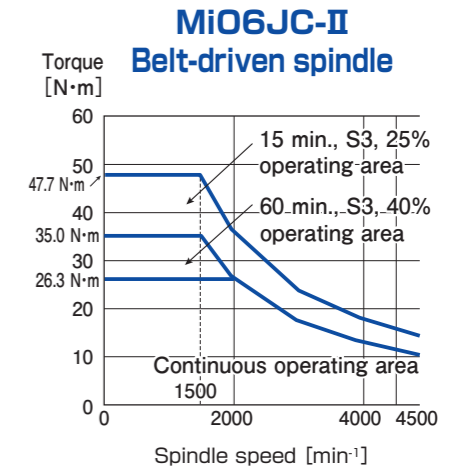


Chuck size: 8 inch  
 Max. machining dia.:  $\phi 280$  mm  
 $\phi 65$  mm (Barstock)  
 Max. machining length: 500 mm  
 Number of turret stations: 8  
 OD tool size:  $\square 25$  mm  
 Drill holder hole dia.:  $\phi 32$  mm,  $\phi 40$  mm

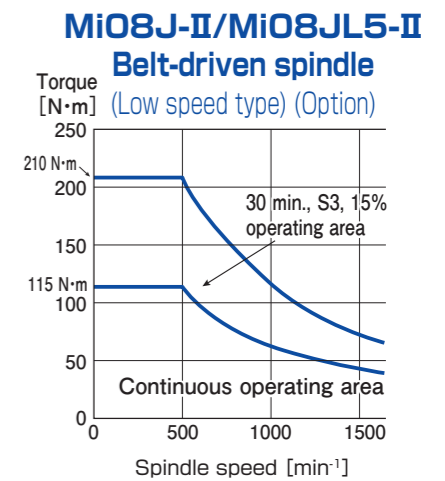
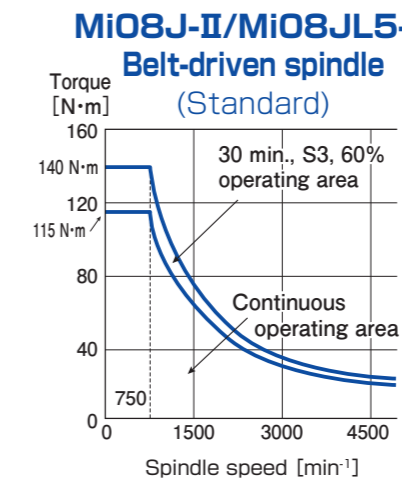
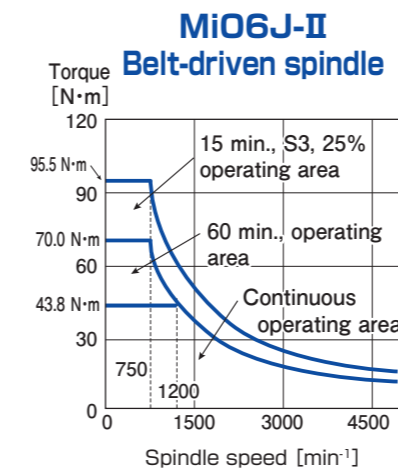
Note: The figure includes options.

Machining capability to achieve high productivity (Material: [JIS] S45C)

	Standard type	
	<b>Turning</b> (Cutting area)	<b>Drilling</b>
<b>Mi06JC-II</b>	<b>0.9 mm<sup>2</sup></b> Machining dia.: $\phi 50$ mm Cutting depth: 3.0 mm Cutting speed: 200 m/min Feed: 0.3 mm/rev	<b><math>\phi 20</math> mm</b> Cutting speed: 200 m/min Feed: 0.2 mm/rev



	Standard type		Low speed type (Option)	
	<b>Turning</b> (Cutting area)	<b>Drilling</b>	<b>Turning</b> (Cutting area)	<b>Drilling</b>
<b>Mi06J-II</b>	<b>1.5 mm<sup>2</sup></b> Machining dia.: $\phi 50$ mm Cutting depth: 3.0 mm Cutting speed: 150 m/min Feed: 0.5 mm/rev	<b><math>\phi 20</math> mm</b> Cutting speed: 150 m/min Feed: 0.2 mm/rev	—	—
<b>Mi08J-II</b> <b>Mi08JL5-II</b>	<b>1.6 mm<sup>2</sup></b> Machining dia.: $\phi 70$ mm Cutting depth: 3.2 mm Cutting speed: 150 m/min Feed: 0.5 mm/rev	<b><math>\phi 30</math> mm</b> Cutting speed: 150 m/min Feed: 0.2 mm/rev	<b>2.0 mm<sup>2</sup></b> Machining dia.: $\phi 100$ mm Cutting depth: 4.0 mm Cutting speed: 150 m/min Feed: 0.5 mm/rev	<b><math>\phi 30</math> mm</b> Cutting speed: 150 m/min Feed: 0.2 mm/rev

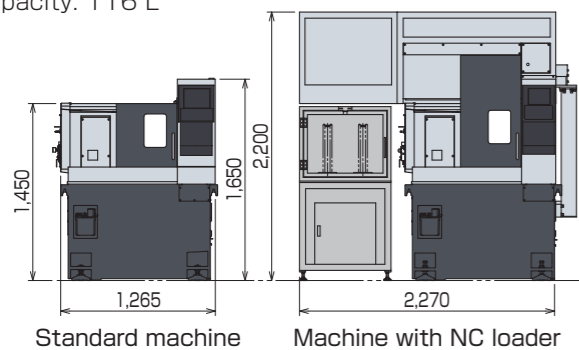
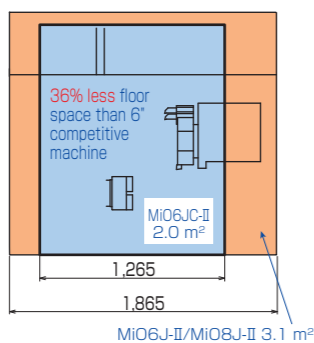


## JC-II Type

### Space saving basic machine for turning, drilling, and boring

#### Space saving

- Compact machine: width 1,265 mm
- 1,450 mm height to the upper guard gives a clear view of the factory which makes operational supervision easier.
- Pullout type coolant tank helps chip cleaning easy.
- Standard coolant tank capacity: 116 L



#### Tool post for turning

- The tool post dedicated for turning allows □20 mm tool to be mounted on the turret surface directly, and it realizes high efficiency machining.



Item	Specifications
Total number of tools	8
OD tool size	□20 mm
Drill holder hole dia.	φ25 mm

#### High rigidity

- High-rigidity box slide is equipped for X axis to enable heavy-duty cutting.



#### Machining capability

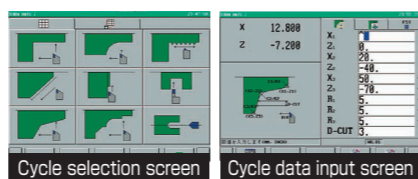
- Enables turning, drilling, and boring.
- Realizes heavy-duty cutting by rigid basic structure.
- Corresponds to the compact automation system.

#### High-accuracy machining

- Thanks to the thermal displacement compensation, the long-term stable production is realized.

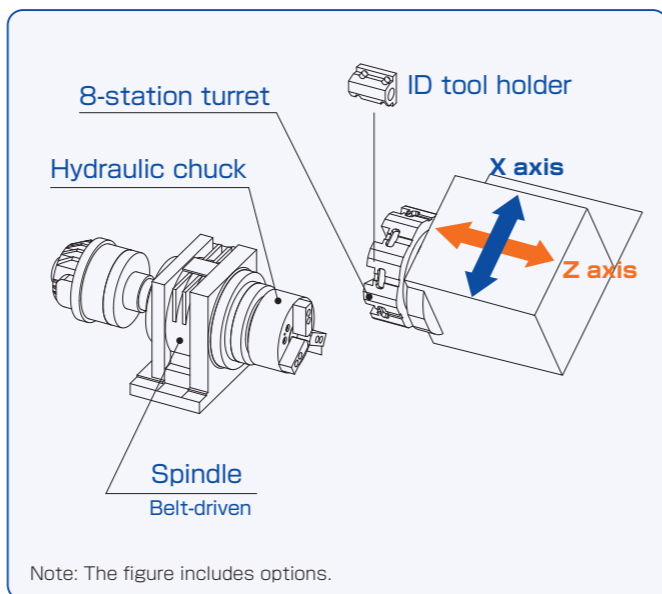
#### Simple operation

- Programs can be created easily with optional on-board conversational programming software (FANUC: TURN MATE i).
- Safety setting up by interference prevention function at debug mode.
- Reduces the damage to the machine with retraction function by abnormal load detection.



#### Overwhelming cost performance

- Overwhelming cost performance to enable big profit by small investment



## J-II Type

### Basic machine for turning, drilling, and boring

#### Machining capability

- Enables turning, drilling, and boring.
- Realizes heavy-duty cutting by rigid basic structure
- Achieves high productivity by heavy-duty cutting and stable machining accuracy.
- Pullout type coolant tank helps chip cleaning easy.
- Standard coolant tank capacity: 145 L

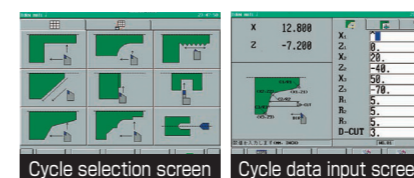


#### High-accuracy machining

- Thanks to the thermal displacement compensation, the long-term stable production is realized.
- Optional built-in motor spindle is selectable.

#### Simple operation

- Programs can be created easily with optional on-board conversational programming software (FANUC: TURN MATE i).
- Safety setting up by interference prevention function at debug mode.
- Reduces the damage to the machine with retraction function by abnormal load detection.



#### Tool post for turning

- The tool post dedicated for turning allows □25 mm tool to be mounted on the turret surface directly, and it realizes high efficiency machining.

Item	Specifications
Total number of tools	8
OD tool size	□25 mm
Drill holder hole dia.	φ32 mm/φ40 mm

#### High rigidity

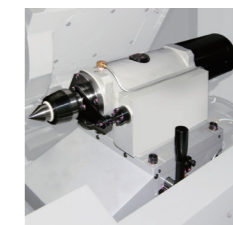
- High-rigidity box slide is equipped for X axis to enable heavy-duty cutting.

#### Overwhelming cost performance

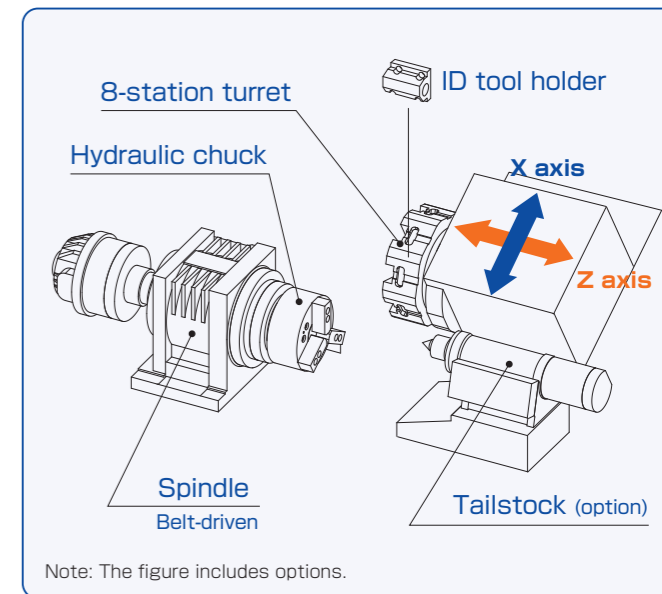
- Overwhelming cost performance to enable big profit by small investment

#### Corresponds to a long workpiece

- The tailstock (option) enables machining of a long workpiece or a workpiece with less chucking length.



Item	Specifications
Tapered hole	MT No.4
Tailstock stroke	100 mm (Hydraulic drive)
Position adjustment	Manual (240 mm)



# JL5-II Type

**Long stroke type basic machine for turning, drilling, and boring** (Max. machining length: 500 mm)

### Machining capability

- Max. machining length: 500 mm
- Enables turning, drilling, and boring.
- Realizes heavy-duty cutting by rigid basic structure.
- Equipped with the high rigidity tailstock (option) for long workpieces.
- Pullout type coolant tank helps chip cleaning easy.
- Standard coolant tank capacity: 145 L



### High rigidity

- High-rigidity box slide is equipped for X axis to enable heavy-duty cutting.

### Overwhelming cost performance

- Overwhelming cost performance to enable big profit by small investment

### Corresponds to a long workpiece

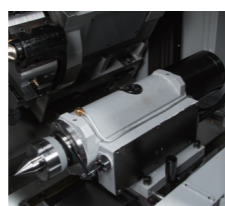
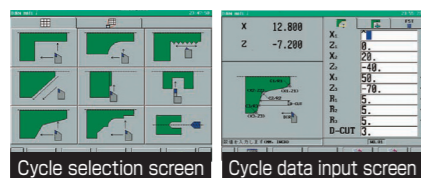
- The tailstock (option) enables machining of a long workpiece or a workpiece with less chucking length.

### High-accuracy machining

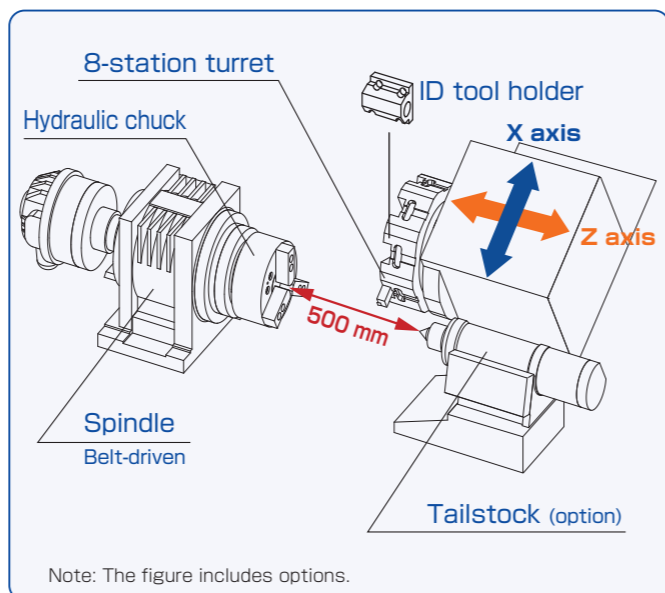
- Thanks to the thermal displacement compensation, the long-term stable production is realized.
- Optional built-in motor spindle is selectable.

### Simple operation

- Programs can be created easily with optional on-board conversational programming software (FANUC: TURN MATE i).
- Safety setting up by interference prevention function at debug mode.
- Reduces the damage to the machine with retraction function by abnormal load detection.



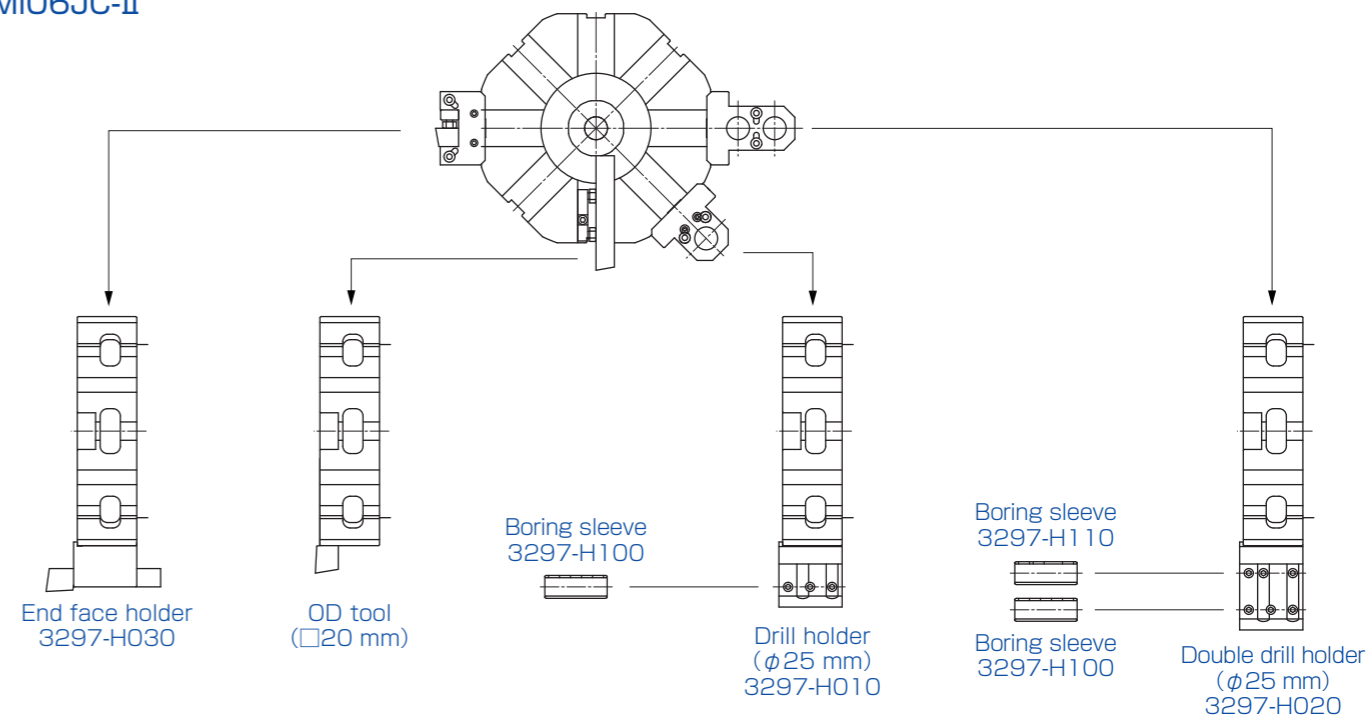
Item	Specifications
Tapered hole	MT No.5
Tailstock stroke	100 mm (Hydraulic drive)
Position adjustment	Manual (345 mm)



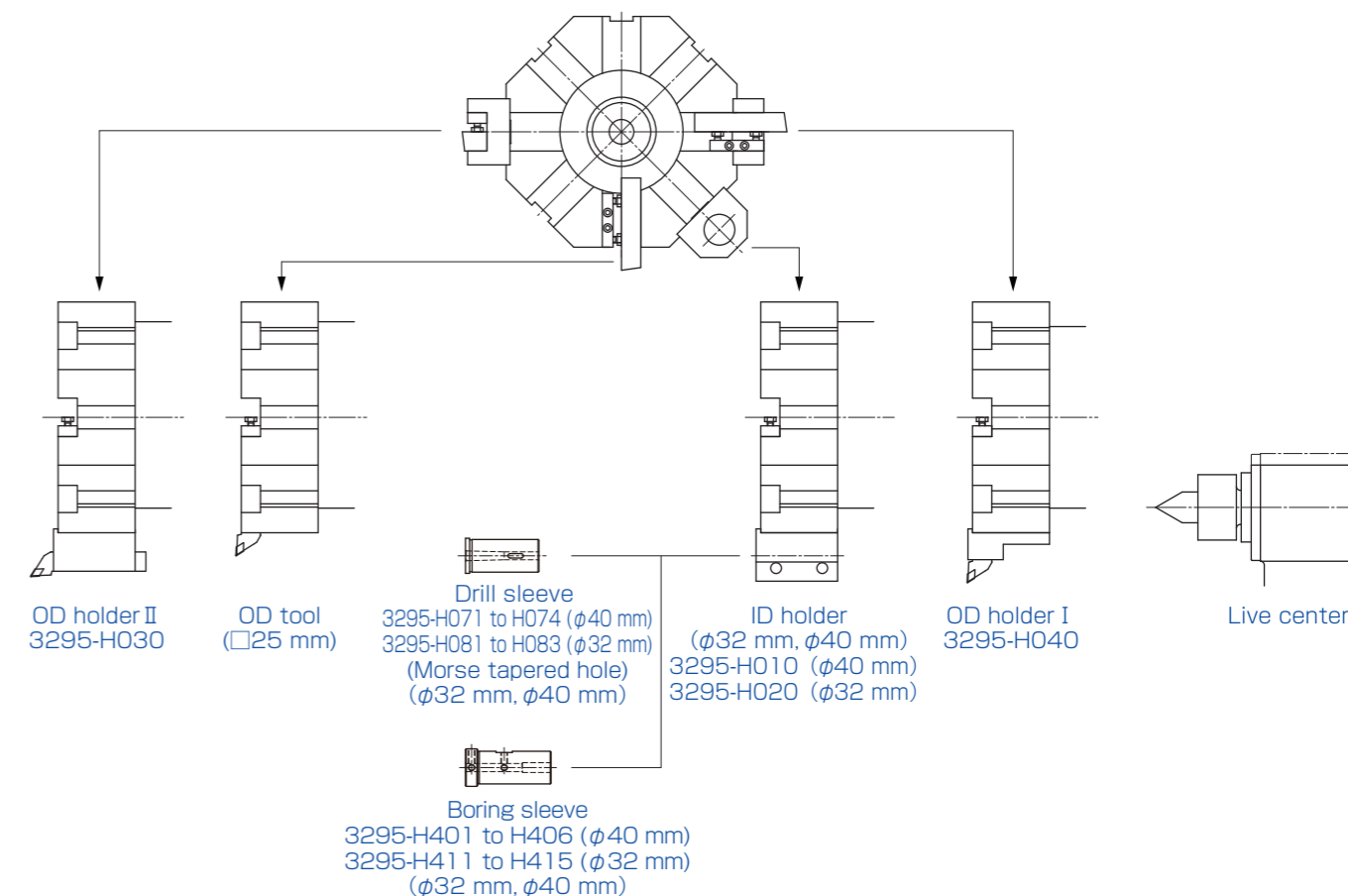
Item	Specifications
Total number of tools	8
OD tool size	□25 mm
Drill holder hole dia.	φ32 mm/φ40 mm

## Tool holder (Option)

Mi06JC-II



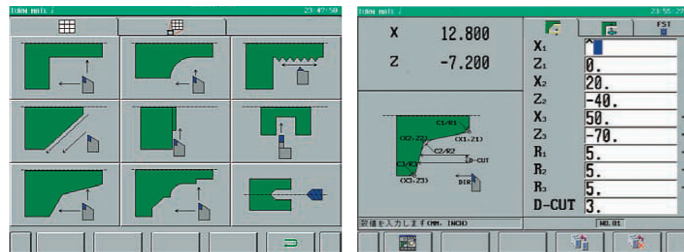
Mi06J-II/Mi08J-II  
Mi08JL5-II



## Control functions

### Automatic programming software (Option)

On-board conversational programming software, TURN MATE i (FANUC), is prepared as an option. (Mi06JC-II/Mi06J-II/Mi08J-II/Mi08JL5-II)



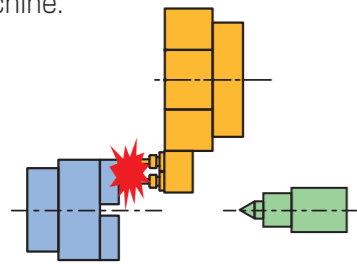
Cycle selection screen

Cycle data input screen

- Inputs data according to the map displayed on the screen. Processing without NC program is possible.
- Continuous operation of the machining cycle (up to 20 pcs)
- ISO program conversion function of the processing cycle. Dedicated program for TURN MATE i (FANUC) can be converted to the ISO program.

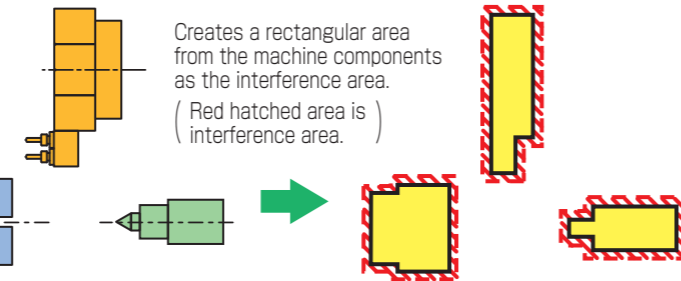
### Retraction function by abnormal load detection (Standard)

When load level exceeds the preset level due to the collision, cutting tool breakage, etc., an alarm will occur, and the slide is moved to the retracting direction immediately to reduce the damage to the machine.

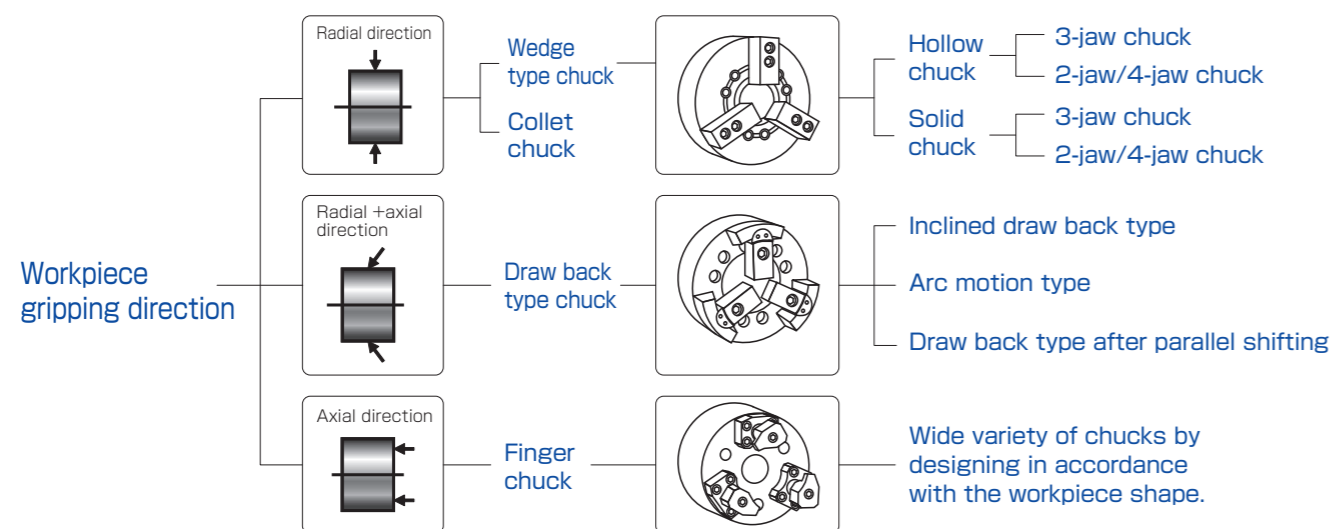


### Interference prevention function at debug mode (Standard)

When the linear axis enters into the interference area at debug mode, the axis stops moving and the alarm occurs.




## Chuck system (Option)



## Options

### Chip conveyor

The installation direction of the chip conveyor can be selected from either right side discharge or rear discharge. (Only rear discharge is available for Mi06JC-II.)

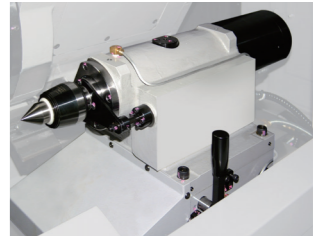
Spec	Hinge + filter type
Applicable	Steel, Castings, Non-ferrous
Usage	From fine, crushed chips to long swarfs
Shape	
	Filter

Spec	Hinge type
Applicable	Steel
Usage	For long chips

### Tailstock

Enables machining of a long workpiece or a workpiece with less chucking length.

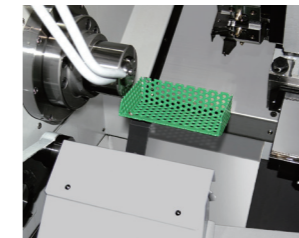
(This option is available for J and JL5 type.)



### Work catcher

The workpiece is discharged to the work conveyor.

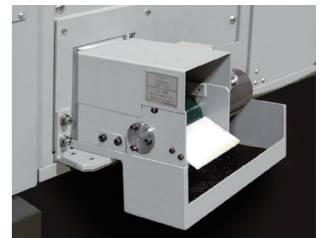
(It cannot be used together with the tool setter.)



### Work conveyor

The workpiece is carried to the outside of the machine.

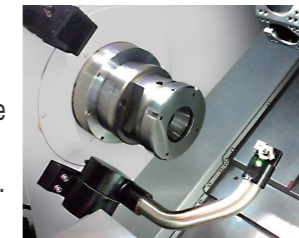
(The work storage box is not included in this option.)



### Tool setter

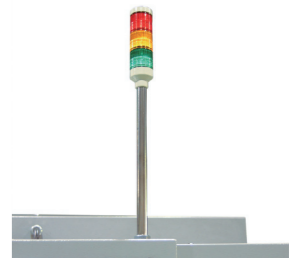
Tool offset is set automatically by pressing the tool against the sensor located at the top of the arm.

(It cannot be equipped together with the work catcher.)



### Signal indicator (triple)

Three color lamp indicates the status of the machine.



### Foot switch

The spindle chuck is opened or closed with the foot switch.

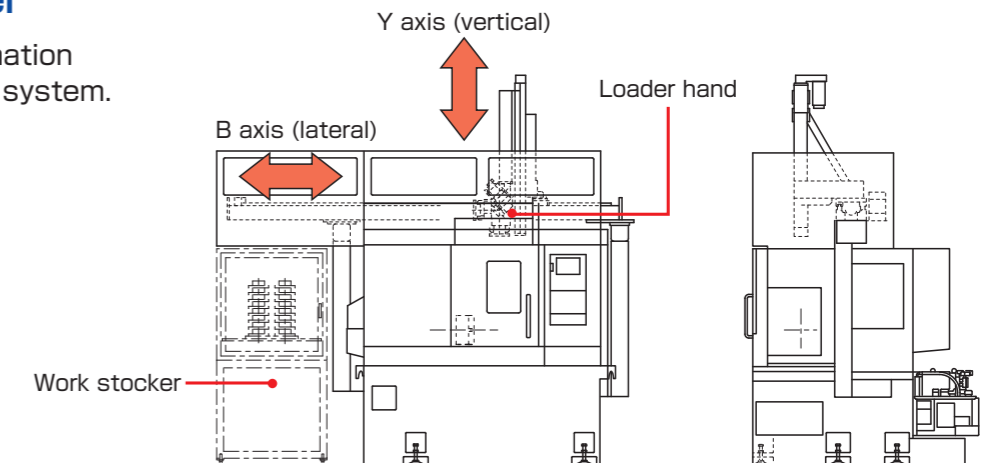


### High pressure pump (2MPa)

A trochoidal pump with discharge pressure of 2MPa is available.

### 2-axis NC loader

Corresponds to automation with NC gantry loader system.



## Specifications

### Machine specifications

Item	Mi06JC-II	Mi06J-II	Mi08J-II	Mi08JL5-II
Max. machining dia.	φ220 mm/φ42 mm (Barstock)(Option)	φ260 mm/φ51 mm (Barstock)	φ280 mm/φ65 mm (Barstock)	φ280 mm/φ65 mm (Barstock)
Max. machining length	190 mm	290 mm		500 mm
Swing over bed	φ530 mm	φ540 mm		φ540 mm
Spindle chuck size	6 inch	6 inch	8 inch	8 inch
Spindle speed	Max. 4,500 min <sup>-1</sup> (Rated speed: 4,000 min <sup>-1</sup> )*	Max. 4,500 min <sup>-1</sup> (Rated speed: 4,000 min <sup>-1</sup> )*	Max. 4,000 min <sup>-1</sup> (Rated speed: 3,500 min <sup>-1</sup> )* (Standard type) / Max. 1,500 min <sup>-1</sup> (Low speed type) (Option)	Max. 4,000 min <sup>-1</sup> (Rated speed: 3,500 min <sup>-1</sup> )* (Standard type) / Max. 1,500 min <sup>-1</sup> (Low speed type) (Option)
Spindle end face configuration	φ140 mm flat	JIS A2-6		
Spindle bore	φ52 mm	φ73 mm		
Spindle draw tube ID	φ43.6 mm	φ52 mm	φ66 mm	φ66 mm
Spindle bearing ID	φ80 mm	φ100 mm		
Number of turret stations	8			
OD tool size	□20 mm	□25 mm		
Drill holder hole dia.	φ25 mm	φ32 mm / φ40 mm		
Spindle motor	5.5 / 7.5 kW	5.5 / 7.5 kW	9 / 11 kW	9 / 11 kW
Coolant pump motor	520 / 815 W (50 Hz / 60 Hz)			
Stroke X axis/Z axis	X axis: 130 mm Z axis: 230 mm	X axis: 160 mm Z axis: 330 mm		X axis: 160 mm Z axis: 560 mm
Rapid traverse rate X axis/Z axis	X axis, Z axis: 24 m/min	X axis: 24 m/min Z axis: 27 m/min		
Taper size for tailstock (option)	—	MT No.4		MT No.5
Power source requirement	18 kVA	23 kVA	27 kVA	27 kVA
Compressed air requirement	0.5 MPa			
Air discharge rate	100 NL/min			
Coolant tank capacity	116 L	145 L		
Size (Width x Depth x Height)	1,265 mm x 1,560 mm x 1,650 mm	1,865 mm x 1,673 mm x 1,600 mm		2,170 mm x 1,778 mm x 1,600 mm
Weight	2,230 kg	3,300 kg		3,430 kg

\* The rotation more than the rated speed should be short period.

### Safety Instructions for Coolant Selection

Use a water-miscible coolant only. Do not use any oil-based coolant.

In case of using an oil-based coolant:

- There is a risk of fire which hot chips or cutting-heat may ignite coolant mist.
- Since the temperature of oil-based coolant rises more than that of water-miscible coolant, it has a great influence on the thermal displacement of the machine.
- In case of unavoidable use of oil-based coolant, an appropriate device for safety such as automatic fire extinguisher is required.

Before using an oil-based coolant, please contact TSUGAMI at the time of consideration of installation.

### NC specifications

Item	Mi06JC-II	Mi06J-II	Mi08J-II	Mi08JL5-II
Controlled axes	X,Z			
Least input increment	0.001 mm (X-axis in diameter)			
Max. programmable value	±8 digits			
Interpolation method	Linear, Circular			
Feedrate	1 to 6,000 mm/min			
Feedrate override	0 to 150 % in 10 % increments			
Dwell	G04, 0 to 99999.999			
Absolute/incremental command	X, Z: Absolute U, W: Incremental			
Number of tool offset	64			
LCD/MDI	10.4" color LCD			
Display language	Japanese / English			
Part program storage size	2 Mbyte			
Number of registerable programs	1,000			
Miscellaneous functions	M4-digits			
Spindle functions	S4-digits			
Tool functions	T4-digits			

## Accessories

### Machine standard accessories

Item	Mi06JC-II	Mi06J-II/Mi08J-II	Mi08JL5-II
Internal illumination lamp	Standard		
Door interlock	Standard		
Through-turret coolant	Option (Max. 2MPa)	Standard	
Hydraulic cylinder	Standard (Solid)	Standard	
Standard tools	Standard		
Plate, Leveling bolt	Standard		
Transit clamps	Standard		
Spindle air purge	Standard		
Thermal displacement compensation	Standard		
Over-spindle coolant nozzle	Standard		

### NC standard accessories

Item	Mi06JC-II/Mi06J-II/Mi08J-II/Mi08JL5-II	Item	Mi06JC-II/Mi06J-II/Mi08J-II/Mi08JL5-II
Chasing function	Standard	Chamfering & Corner R	Standard
Continuous thread cutting	Standard	Multiple repetitive cycle	Standard
Manual pulse generator	Standard	Extended program editing	Standard
Memory card I/O interface	Standard	Direct drawing dimension programming	Standard
Background editing	Standard	Inch/metric conversion	Standard
Run time & parts number display	Standard	Canned drilling cycle	Standard
Custom macro	Standard	Rigid tap	Standard
Constant surface speed control	Standard	Abnormal load detection	Standard
Tool geometry/wear offset	Standard	Variable-lead thread cutting	Standard
Programmable data input	Standard	Thread cutting cycle retract	Standard

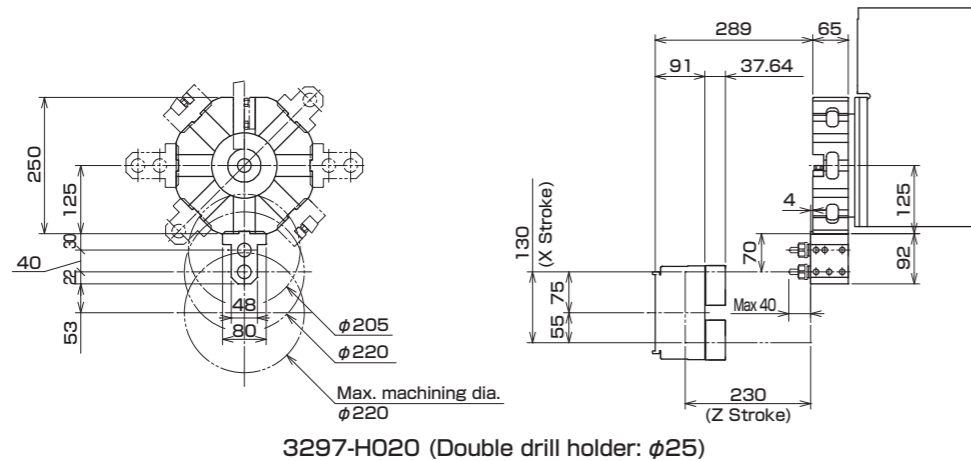
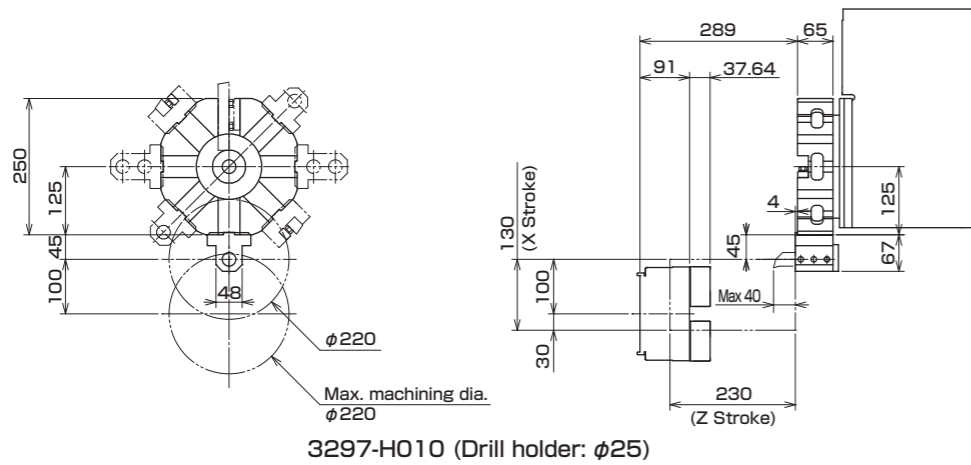
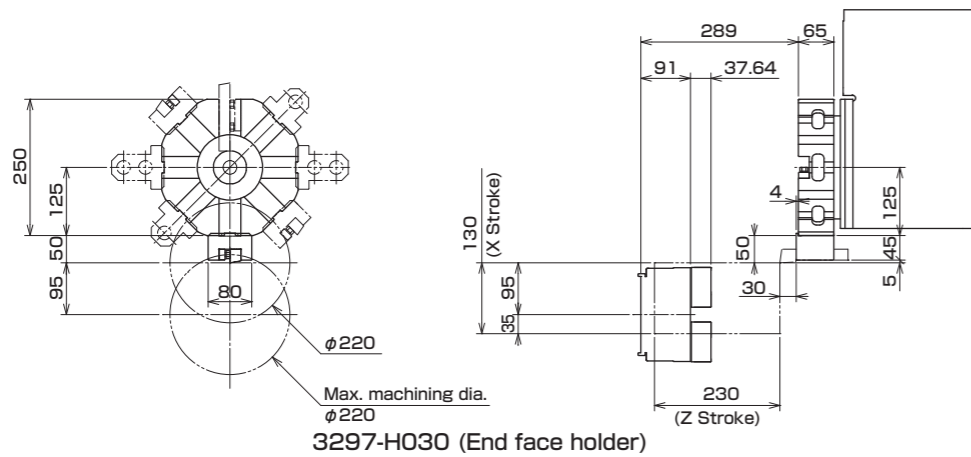
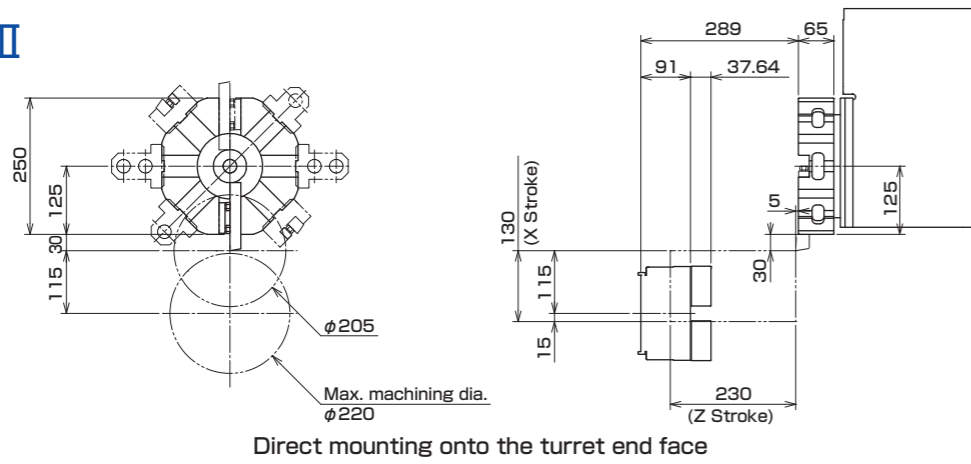
### Options

Item	Mi06JC-II	Mi06J-II/Mi08J-II	Mi08JL5-II
Hydraulic chuck	○	○	○
Collet chuck	○	○	○
Tool holder	○	○	○
Work conveyor	○	○	○
2-axis NC loader	○	○	○
Work stocker (flange)	○	○	○
Work stocker (shaft)	—	○	○
Tool setter	○	○	○
Chip conveyor *	○ (Rear discharge only)	○	○
High pressure pump (2MPa)	○	○	○
Tailstock	—	○	○
Live center	—	○ (MT No.4)	○ (MT No.5)
Foot switch (Spindle chuck)	○	○	○
Signal indicator (triple)	○	○	○
Bar feeder interface	○	○	○
RS232C interface	○	○	○
Manual handle retrace	○	○	○
FANUC: TURN MATE i	○	○	○
Tool load monitor (Spindle)	○	○	○
Tool load monitor (linear axis)	○	○	○
Tool counter	○	○	○

\* Right side discharge or rear discharge is selectable.

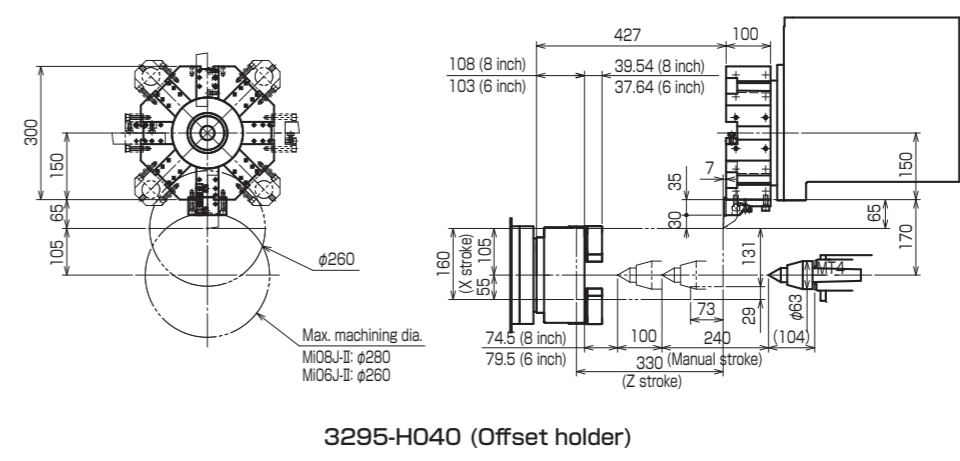
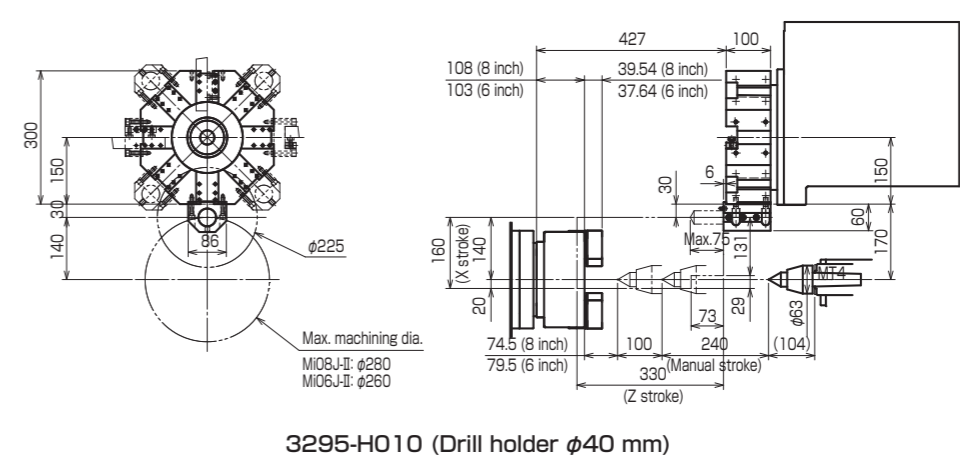
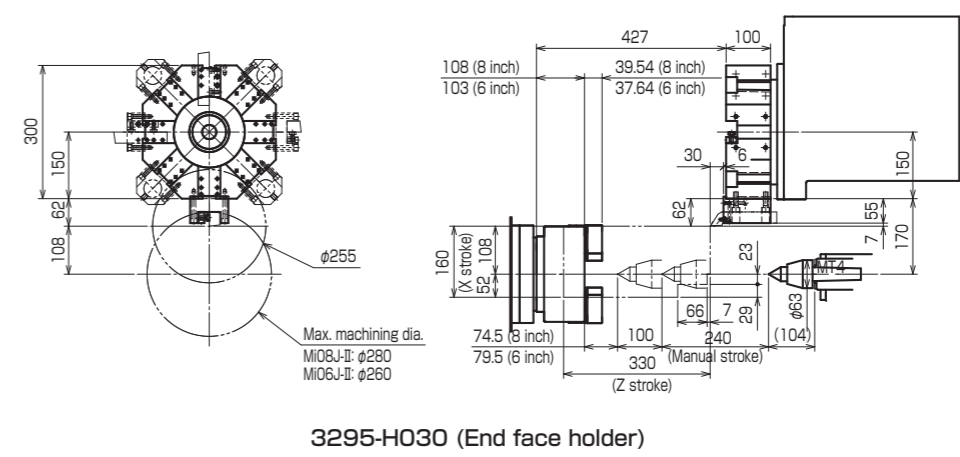
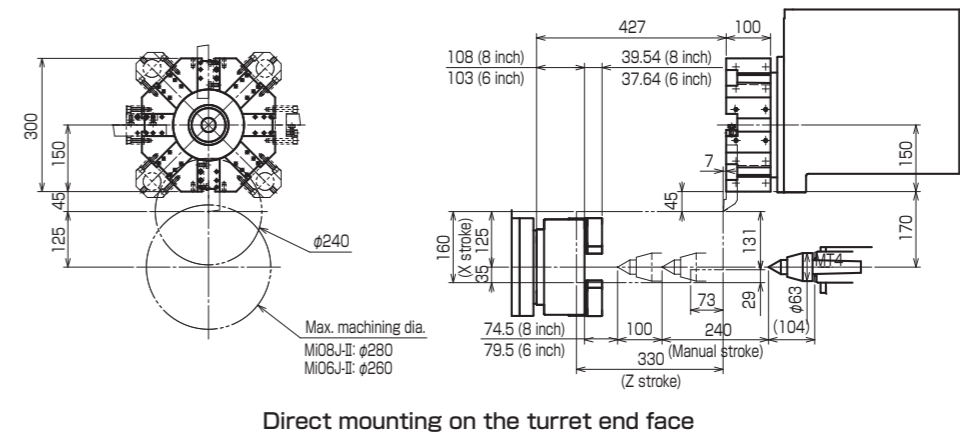
Tooling zone

Mi06JC-II

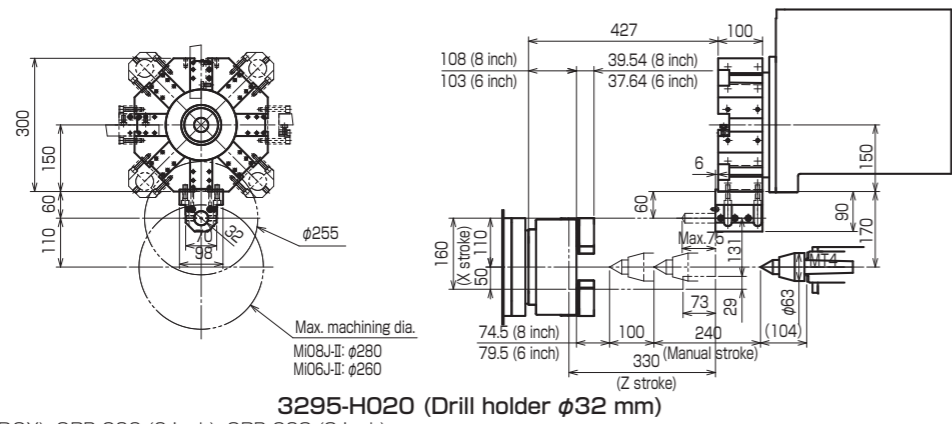


Tooling zone

Mi06J-II  
Mi08J-II



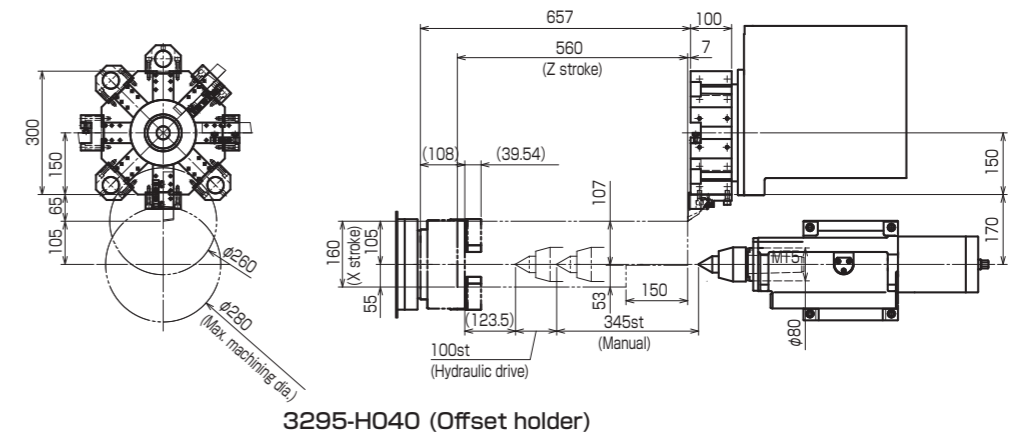
Tooling zone



3295-H020 (Drill holder  $\phi 32$  mm)

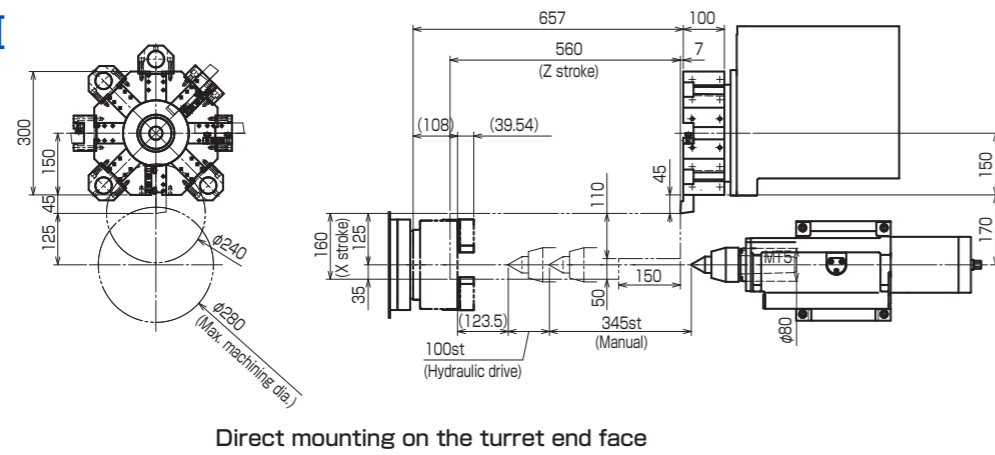
\* Chuck type (CHANDOX): OPB-206 (6 inch), OPB-208 (8 inch)

Tooling zone



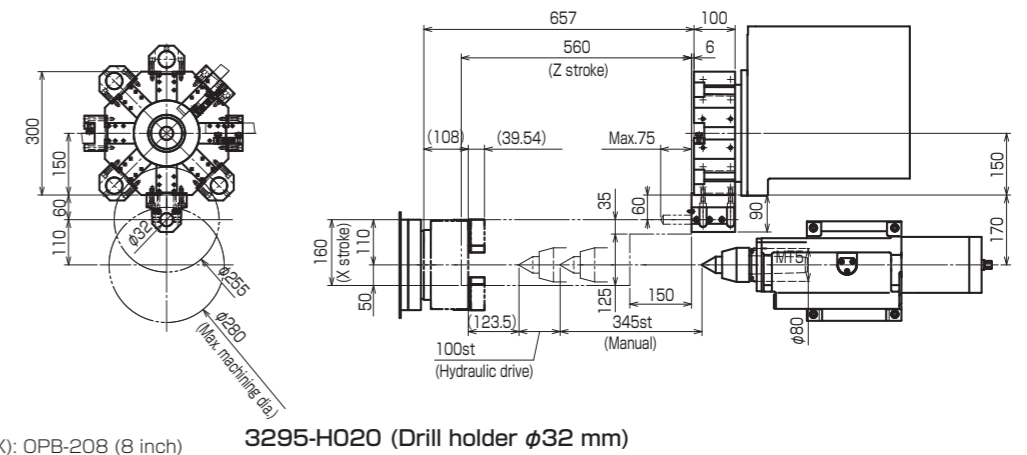
3295-H040 (Offset holder)

Mi08JL5-II

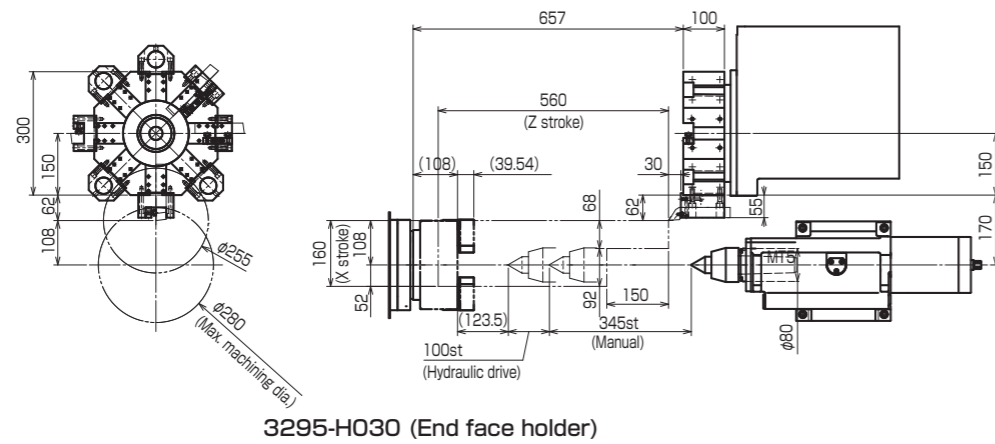


Direct mounting on the turret end face

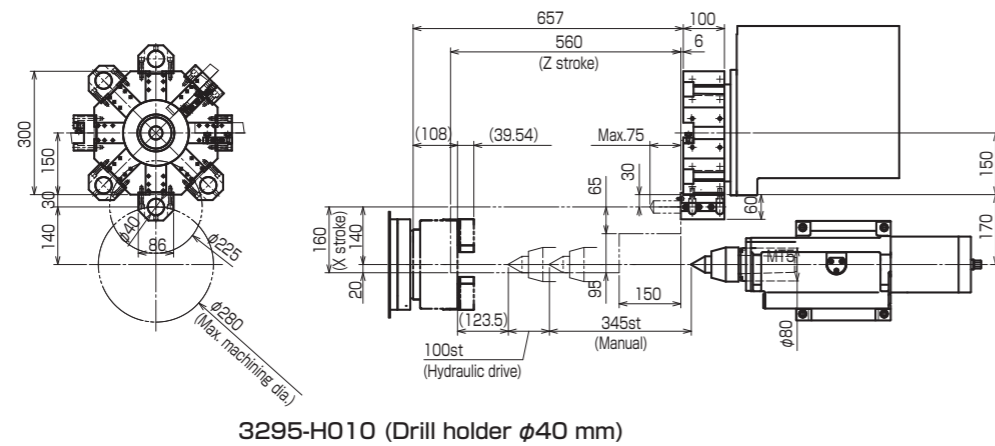
\* Chuck type (CHANDOX): OPB-208 (8 inch)



3295-H020 (Drill holder  $\phi 32$  mm)



3295-H030 (End face holder)



3295-H010 (Drill holder  $\phi 40$  mm)