

# SL 3500/4500Y Series

Y-AXIS BOX GUIDE TYPE  
HORIZONTAL TURNING CENTER



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**SL 3500/4500Y Series**

- SL 3500Y
- SL 3500SY
- SL 3500LY
- SL 4500XY
- SL 4500LY
- SL 4500XLY

## SL 3500Y Series

**SL 3500Y/SY/LY**

## SL 4500Y Series

**SL 4500XY/LY/XLY**

### Heavy duty, high productivity Y-axis Box Guide type turning center

- Super stable low-center of gravity 30° slant bed with maximized work area
- Significantly reduced non-cutting time for high efficiency machining
- Servo turret to enhance high-speed performance
- Low center of gravity design minimizing vibration and thermal growth for high precision turning



[ ] : Option

| Category                         | SL 3500<br>AY   ASY                   | SL 3500<br>BY   BSY          | SL 3500<br>ALY        | SL 3500<br>BLY        | SL 4500<br>AXY   ALY   AXLY                        | SL 4500<br>BXY   BLY   BXLY                        | SL 4500<br>CXY   CLY   CXLY                        |
|----------------------------------|---------------------------------------|------------------------------|-----------------------|-----------------------|--|--|--|
| Swing over bed                   | mm(inch) 850(33.47)                   | 850(33.47)                   | 850(33.47)            | 850(33.47)            | 975(38.39)   | 975(38.39)   | 975(38.39)   |
| Max turning length               | mm(inch) 795   755<br>(31.30   29.72) | 765   755<br>(30.12   29.72) | 2,125(83.67)          | 2,095(82.49)          | 2,140   2,930   5,000<br>(84.26   115.36   196.86) | 2,140   2,930   5,000<br>(84.26   115.36   196.86) | 2,140   2,930   5,000<br>(84.26   115.36   196.86) |
| Chunk size(Main/Sub)             | inch 12"/-   12"/10"                  | 15"/-   15"/10"              | 12"/-                 | 15"/-                 | 18[15]"  | 21"  | 24"  |
| Spindle bore(Main)               | mm(inch) 115(4.53)                    | 132(5.20)                    | 115(4.53)             | 132(5.20)             | 132(5.20)  | 181(7.13)  | 181(7.13)  |
| Spindle speed(Main)              | rpm 2,500                             | 2,000                        | 2,500                 | 2,000                 | 1,800[2,000]                                       | 1,500  | 1,200  |
| Spindle speed(Sub)               | rpm -   4000                          | -   4000                     | -                     | -                     | -  | -  | -  |
| Main Motor(cont./max)            | kW(Hp) 18.5/26(24.81/34.87)           | 18.5/26(24.81/34.87)         | 18.5/26(24.81/34.87)  | 18.5/26(24.81/34.87)  | 30/45(40.24/60.35)                                 | 30/45(40.24/60.35)                                 | 30/45(40.24/60.35)                                 |
| Sub-spindle Motor<br>(cont./max) | kW(Hp) 15/22(24.81/29.50)             | 15/22(24.81/29.50)           | -                     | -                     | -  | -  | -  |
| Travels X                        | mm(inch) 280(11.03)                   | 280(11.03)                   | 280(11.03)            | 280(11.03)            | 350(13.78)   | 350(13.78)   | 350(13.78)   |
| Travels Y                        | mm(inch) 130(±65)(5.13±(2.56))        | 130(±65)(5.13±(2.56))        | 130(±65)(5.13±(2.56)) | 130(±65)(5.13±(2.56)) | 200(±100)(7.88±(3.94))                             | 200(±100)(7.88±(3.94))                             | 200(±100)(7.88±(3.94))                             |
| Travels Z                        | mm(inch) 865(34.06)                   | 865(34.06)                   | 2,200(86.62)          | 2,200(86.62)          | 2,270   3,060   5,090<br>(89.38   120.48   200.40) | 2,270   3,060   5,090<br>(89.38   120.48   200.40) | 2,270   3,060   5,090<br>(89.38   120.48   200.40) |
| Travels ZB                       | mm(inch) 705(27.76)                   | 705(27.76)                   | -                     | -                     | -  | -  | -  |
| No of tool positions             | EA 12 (BMT65)                         | 12 (BMT65)                   | 12 (BMT65)            | 12 (BMT65)            | 12 (BMT75)   | 12 (BMT75)   | 12 (BMT75)   |

### Extensive turning capacity lineup

- Extensive turning capacity lineup to meet customer needs
- Main chuck : 12~24" (including big bore) available
- Turning length : 795~5,000(31.30~196.86 inch)mm available

### Y-axis design for complex cutting

- Side milling, off-center drilling
- Wider off-center work range
- Complex shape machining with a single setup

### High rigidity built-in type tailstock with dead center

- NC controlled servo tailstock (SL 3500Y only) or tow-along built-in type tailstock with dead center
- Quill thrust force can be adjusted to match the length and diameter of the workpiece to maximize cutting efficiency

### User-centric options and convenience features

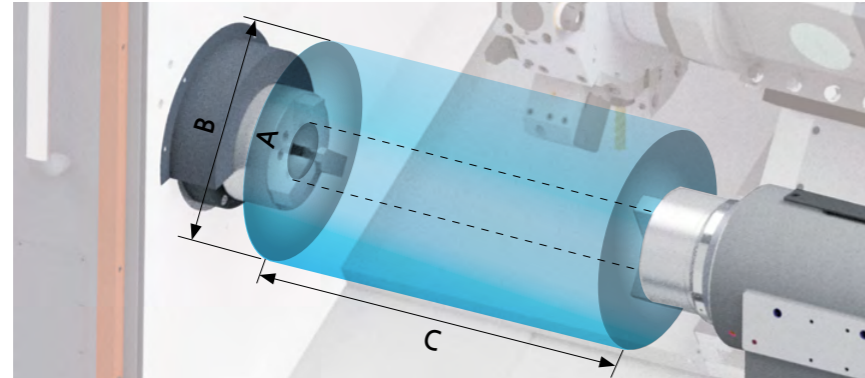
- 15" large-screen LCD standard
- SMEC HMI and Manual Guide i standard

## SL 3500/4500Y Series

Y-AXIS HORIZONTAL TURNING CENTER

### Extensive turning capacity lineup

Offers an extensive turning capacity lineup with increased productivity and superb cost-effective performance for customer satisfaction



SL 3500/4500Y Series offers an **extensive lineup** with various **chuck sizes, turning lengths**

A (Chuck size) : **12", 15", 18", 21", 24"**

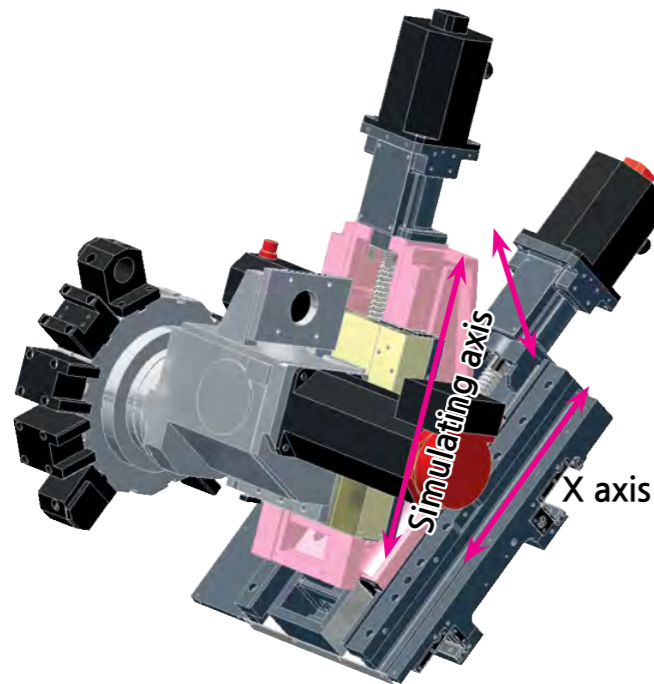
B (Max turning diameter) :

**Ø430 ~ Ø620mm (Ø16.93 ~ Ø24.41 inch)**

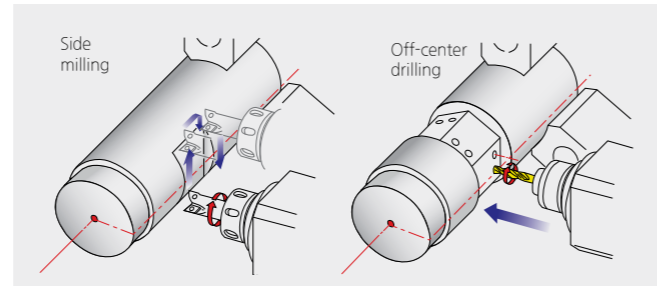
C (Max turning length) :

**765 ~ 5,000mm (30.12 ~ 196.86 inch)**

### Y-axis design for complex cutting



- Side milling, off-center drilling
- Wider off-center work range
- Complex shape machining with a single setup



| Category                              |                 | SL 3500Y/SY/LY               | SL 4500XY/LY/XLY                   |
|---------------------------------------|-----------------|------------------------------|------------------------------------|
| No. of tool positions                 | ea              | 12(24)                       | 12                                 |
| Turret type                           |                 | BMT65                        | BMT75                              |
| Shank & Boring bar size               | mm<br>(inch)    | □25×25, Ø50<br>(□1×1, Ø1.97) | □32×32, Ø60<br>(□1.26×1.26, Ø2.37) |
| Rotary tool speed                     | rpm             | 4,500                        | 4,000                              |
| Rotary tool motor power<br>(cont/max) | kW<br>(Hp)      | 5.5/7.5<br>(7.38/10.06)      | 5.5/7.5<br>(7.38/10.06)            |
| Rotary tool torque<br>(cont/max)      | N.m<br>(lbs.ft) | 35.97<br>(25.82/44.04)       | 35.97<br>(25.82/44.04)             |

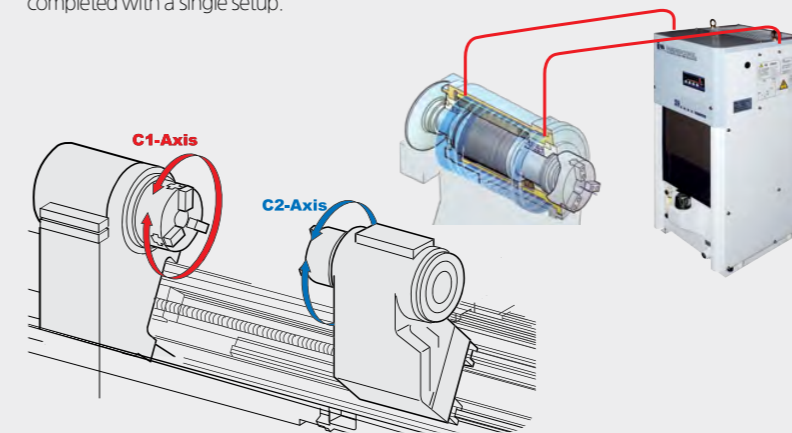
### High precision, fast response sub-spindle and servo tailstock

#### Synchronized C1 and C2-axis indexing

Synchronization of the main spindle (C1) and sub-spindle (C2) indexing allows for machining of a variety of complex shapes. All processes from simple turning and milling to multi-axis simultaneous machining can be completed with a single setup.

#### Sub-spindle oil cooling unit

The sub-spindle is wrapped by an oil jacket cooling system to minimize thermal growth and to ensure high speed, high-accuracy machining through various machining conditions.



#### Servo (NC controlled) Tailstock (SL 3500Y ONLY)

The servo tailstock supports high-speed, high-precision machining where the thrust force is NC controlled.

The quill thrust force may be adjusted in accord with the workpiece's length and diameter, reducing the cycle time and increasing the productivity.



### User-centric options and convenience features



#### 1 User-centric Large 15" OP Panel

The QWERTY-type keyboard and high visibility buttons and effective button placement enhances ease of use.

#### 2 Easy coolant tank maintenance

Wheeled coolant tank allows makes it easier to add or exchange the coolant.

#### 3 Easy hydraulic valve adjustment

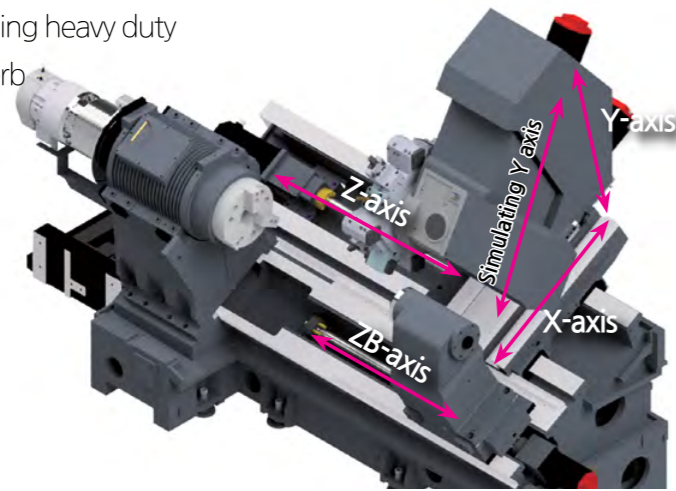
The gauge and hydraulic valves are located at a height that make it easy for the operator to adjust.

# SL 3500/4500Y Series

Y-AXIS HORIZONTAL TURNING CENTER

## Machine Design

All travel axes are comprised of high rigidity box guideways enabling heavy duty cutting and superb productivity



SL 3500Y series 30°

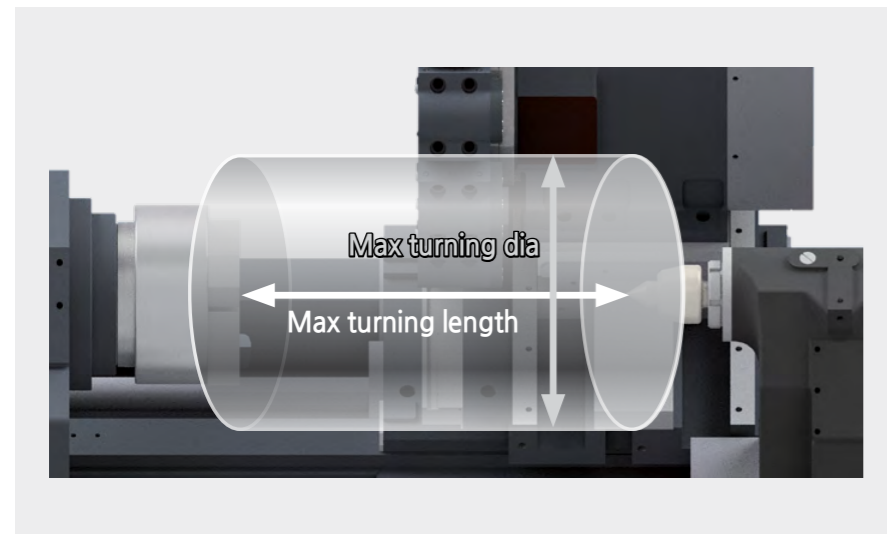
SL 4500Y series 45°

30°/45° slant bed provides excellent stability during heavy duty cutting

The 30°/45° slant bed with high-torque tubing and ribbed structure provides superb rigidity against twisting and bending, dampening vibration during heavy duty cutting for high precision machining  
The use of a slant bed allows for easier access to the workpiece and excellent chip discharge

| Model                     | Chuck size | Travel [mm (inch)] |                           |   |
|---------------------------|------------|--------------------|---------------------------|---|
|                           |            | X-axis             | Y-axis                    | Z-axis                                  |
| SL 3500Y/SY/LY (A type)   | 12"        | 280(11.30)         | 130 (±65) (5.12 (±2.56))  | 865/1,605/2,200 (34.06/63.19/86.62)     |
| SL 3500Y/SY/LY (B type)   | 15"        | 280(11.30)         | 130 (±65) (5.12 (±2.56))  | 865/1,605/2,200 (34.06/63.19/86.62)     |
| SL 4500XY/LY/XLY (A type) | 18"[20"]   | 350(13.78)         | 200 (±100) (7.88 (±3.94)) | 2,270/3,060/5,090 (89.38/120.48/200.40) |
| SL 4500XY/LY/XLY (B type) | 21"        | 350(13.78)         | 200 (±100) (7.88 (±3.94)) | 2,270/3,060/5,090 (89.38/120.48/200.40) |
| SL 4500XY/LY/XLY (C type) | 24"        | 350(13.78)         | 200 (±100) (7.88 (±3.94)) | 2,270/3,060/5,090 (89.38/120.48/200.40) |

## Work Range



Providing a large work envelope, ensuring cost effective productivity

### SL 3500Y series(A, B type)

Max turning dia

Ø430mm(16.93 inch) : Y/LY  
Ø423mm(16.65 inch) : SY

### SL 4500Y series(A, B, C type)

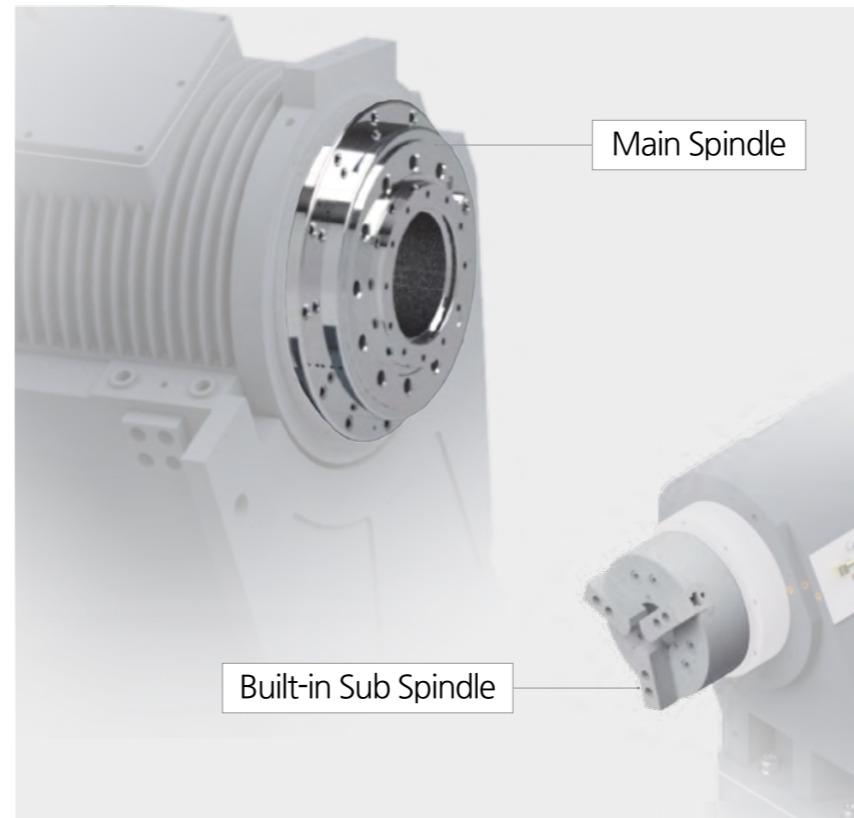
Max turning dia

Ø620mm(24.41 inch)

Unit : mm (inch)

| Model              | SL 3500Y    | SL 3500SY   | SL 3500LY    | SL 4500XY    | SL 4500LY     | SL 4500XLY    |
|--------------------|-------------|-------------|--------------|--------------|---------------|---------------|
| Max turning dia    | Ø430(16.93) | Ø423(16.65) | Ø430(16.93)  | Ø620(24.41)  | Ø620(24.41)   | Ø620(24.41)   |
| Max turning length | 795(31.30)  | 755(29.72)  | 2,125(83.67) | 2,140(84.26) | 2,930(115.36) | 5,000(196.86) |

## Spindle



The high power motor allows both high precision and high torque machining, improving operator productivity.

### SL 3500Y/SY/LY (A type)

Max spindle speed (Main) Power (cont/Max.)  
2,500rpm 18.5/26kW (24.81/34.87 Hp)  
Torque (cont/Max.)  
1,465/2,059N·m (1,080.53/1,518.65 lbs.ft)

### SL 3500Y/SY/LY (B type)

Max spindle speed (Main) Power (cont/Max.)  
2,000rpm 18.5/26kW (24.81/34.87 Hp)  
Torque (cont/Max.)  
1,465/2,059N·m (1,080.53/1,518.65 lbs.ft)

### SL 4500XY/LY/XLY (A type)

Max spindle speed (Main) Power (cont/Max.)  
1,800rpm 30/45kW (40.24/60.35 Hp)  
Torque (cont/Max.)  
2,116/3,174N·m (1,560.69/2,341.03 lbs.ft)

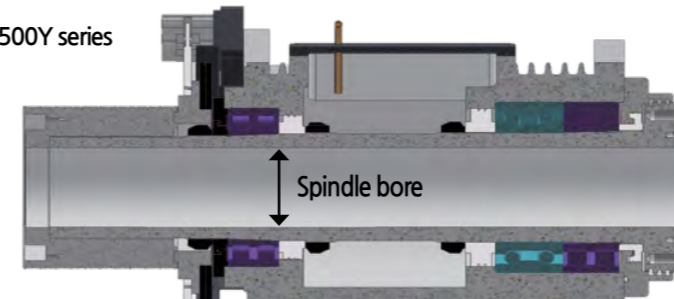
### SL 4500XY/LY/XLY (B type)

Max spindle speed (Main) Power (cont/Max.)  
1,500rpm 30/45kW (40.24/60.35 Hp)  
Torque (cont/Max.)  
2,819/4,229N·m (2,079/19/3,119.16 lbs.ft)

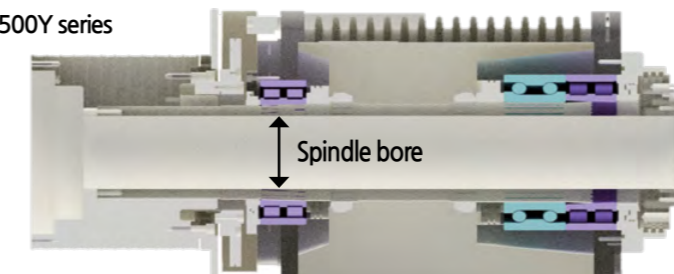
### SL 4500XY/LY/XLY (C type)

Max spindle speed (Main) Power (cont/Max.)  
1,200rpm 30/45kW (40.24/60.35 Hp)  
Torque (cont/Max.)  
2,819/4,229N·m (2,079/19/3,119.16 lbs.ft)

SL 3500Y series



SL 4500Y series



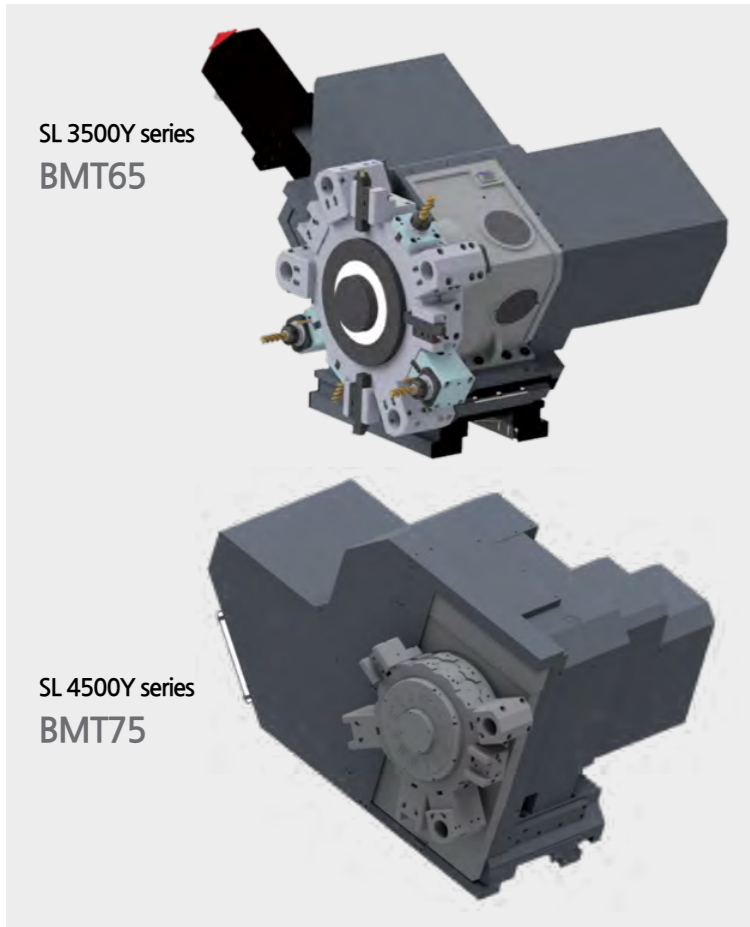
| Model        | Unit      | SL 3500Y Series |             | SL 4500Y Series |             |             |
|--------------|-----------|-----------------|-------------|-----------------|-------------|-------------|
|              |           | A type          | B type      | A type          | B type      | C type      |
| Spindle bore | mm (inch) | Ø115 (4.53)     | Ø132 (5.20) | Ø132 (5.20)     | Ø181 (7.13) | Ø181 (7.13) |
| Spindle nose | ASA       | A2-11           | A2-11       | A2-11           | A2-11       | A2-11       |

The high precision Double Row of Cylindrical Roller Bearings and Angular Ball Bearings on the front end of the spindle and the Double Row of Cylindrical Roller Bearings on the back end of the spindle ensure high precision, high speed machining performance

## SL 3500/4500Y Series

Y-AXIS HORIZONTAL TURNING CENTER

### Turret



#### BMT milling turret

This 12 tool position (BMT65/BMT75) turret with the largest in class curvic coupling and power hydraulic clamping force is capable of accepting a rotary tool in every tool position and allows a variety of machining operations with a single set-up

The best in class BMT65/BMT75 tool holders ensures high rigidity, high precision machining and with non-stop turret indexing in either direction minimizes the turret index time down to 0.20/0.25 seconds per station.

#### SL 3500Y series

Turret indexing time : **0.25sec**

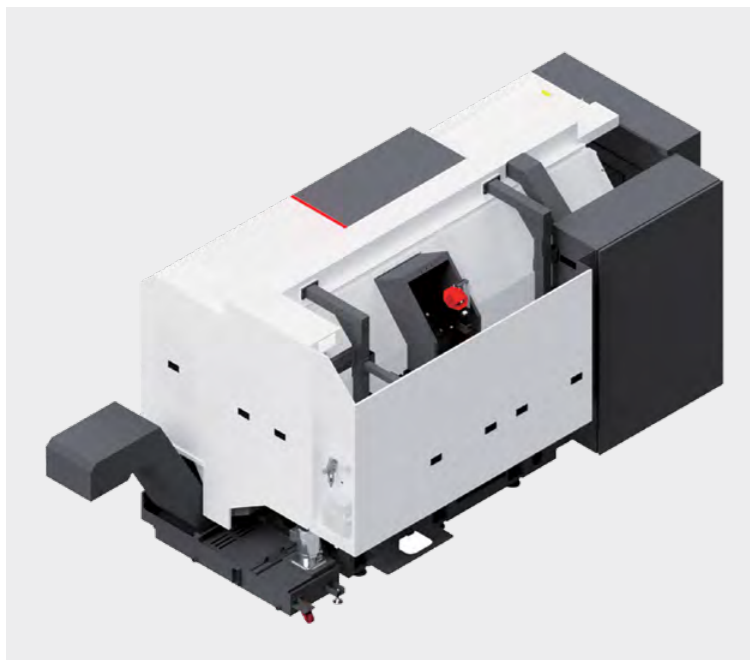
No. of tool positions :  
**12 (□25×25, Ø50)**  
**(□1"×1", Ø1.97")**

#### SL 4500Y series

Turret indexing time : **0.25sec**

No. of tool positions :  
**12 (□32×32, Ø60)**  
**(□1.26"×1.26", Ø2.37")**

### Coolant System



Coolant capacity :

**180 Liter(47.56 gal)** : SL 3500Y/SY

**261 Liter(68.95 gal)** : SL 3500LY

**400 Liter(105.67 gal)** : SL 4500XY

**600 Liter(158.51 gal)** : SL 4500LY

Coolant pump (STD) :

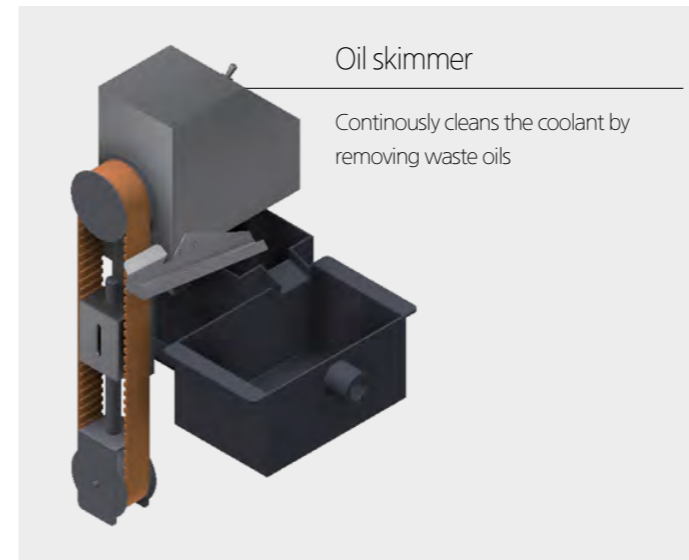
**4.5 bar(1.1kW)**

Coolant pump (OPT) :

**7, 10, 14.5, 20 bar**→ 60Hz(Submerged)

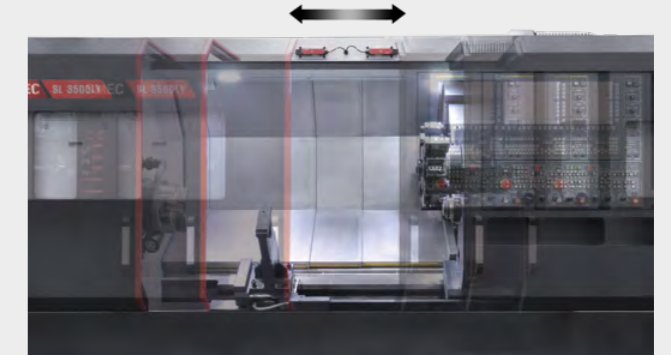
**30~70 bar**→ 60Hz(Independent)

### Accessories[Optional]



#### Autodoor

Used to quickly open/close the operator door via program to increase productivity in an automation line.



#### Tool presetter

Provides faster and more precise tool setup, checking for tool wear and compensation



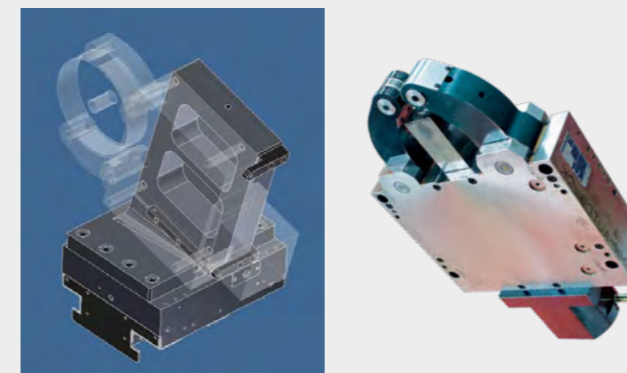
#### Air blow

Used to automatically remove chips from the chuck after machining and used for safe loading of the chuck in an automated line.



#### Steady rest

Provides additional stability when cutting long parts and the size of the steady rest may be selected



#### Chip conveyor

Used to discharge chips created during machining



SMC FANUC i series



- 15" LCD color display
- High quality designed OP Panel
- Conversational programming, Manual Guide i
- Part program size 2MB
- SMC Custom S/W

SMC Custom S/W displayed using MDI's **S1** button or OP Panel's **CUSTOM** button

**CUSTOM** : Provide operator convenience and improve productivity using the support function for tool management and additional device setting.



M/G-Code check function

Allows the operator to directly read the M/G-Code on the machine for easy application programming



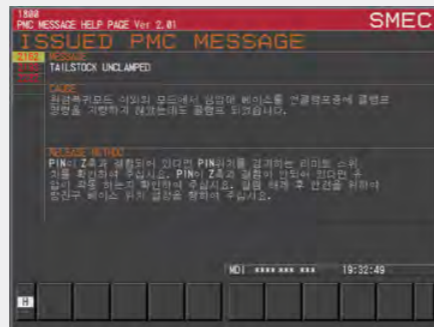
Easy tailstock setting

Easily configure a variety of functions such as travel limiting, origin setting and signal check



Display only the necessary tools and offsets and check the configured counter at the same time

Tool information and setting management mode



PMC alarm check function

When a PMC alarm occurs, the cause and countermeasures are described in detail, making operation and maintenance more convenient



Counter for each T-Code

Manual Guide i (STD)

SMC's Manual Guide i system enables advanced part program creation and more efficient and faster machining with conversational programming



Check cutting result using cutting simulation

Easy program creation and editing

Program creation using advanced part program editing and extensive cutting cycles

Check program using cutting simulations

Program pre-check using realistic cutting simulation

Effective cutting setup

Tool and cutting condition offset data setup based on measurement cycle



Check cutting path using cutting simulation

Advanced cutting capabilities

Check cutting status such as cutting cycle name and tool icon during the cutting process

Measurement

Feedback of cutting results and tool offset values after cutting

IoT Solution (OPT)



NC-Gate / IoT-Gate

The NC-Gate / IoT-Gate that was developed in-house with our ICT technology is a universal gateway that not only interworks with our machine tools, but machine tools from other manufacturers, robots, automation equipment, and analog / digital sensors as a network device capable of bi-directional communication.

Supported drivers : Fanuc / Mitsubishi / Siemens NC, Modbus TCP, DeviceNet, Profibus, Ethernet, AI/DI/DO



Provides key performance indicators and displays target achievement

Indicators : achievement rate, productivity, process defect rate, equipment and factory usage, quality defect rate, lead time, and average cycle time



Provides figures and graphs of overall equipment effectiveness

Availability, performance, quality, etc.



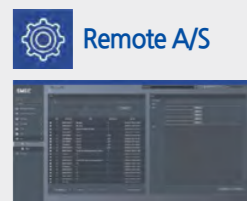
Provides operation status and alarm information in case of problems in the production line

Provides information about the operation status, speed, production alarms, etc. of each machine



Remote control and operation

Emergency stop switch, program editing, etc.



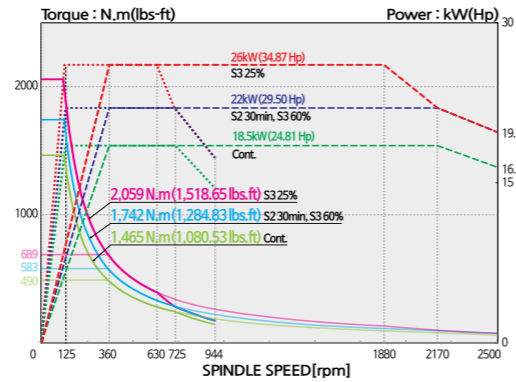
Problem diagnosis via remote control

Provide remote diagnosis services to users via the IIoT solution

Power-Torque Diagram

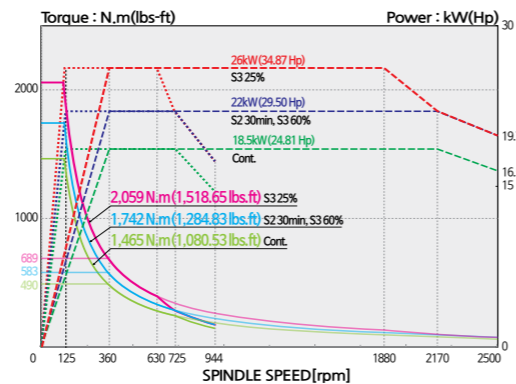
SL 3500Y/LY (A type)

Max speed  
**2,500**rpm  
 Power (cont/Max.)  
**18.5/26**kW(24.81/34.87 Hp)  
 Torque (cont/Max.)  
**1,465/2,059**N·m  
 (1,080.53/1,518.65 lbs-ft)



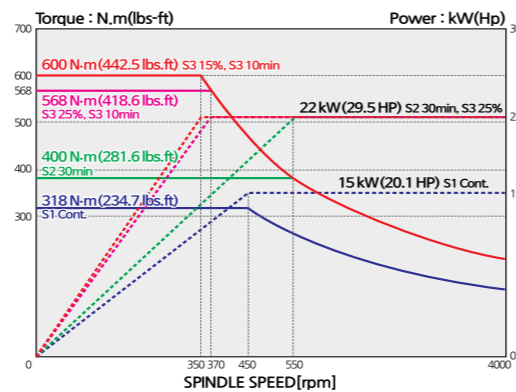
SL 3500Y/LY (B type)

Max speed  
**2,000**rpm  
 Power (cont/Max.)  
**18.5/26**kW(24.81/34.87 Hp)  
 Torque (cont/Max.)  
**1,465/2,059**N·m  
 (1,080.53/1,518.65 lbs-ft)



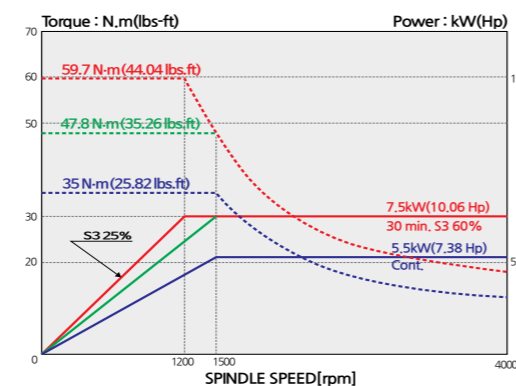
SL 3500SY (10" SUB Spindle)

Max speed  
**4,000**rpm  
 Power (cont/Max.)  
**15/22**kW(24.81/29.50 Hp)  
 Torque (cont/Max.)  
**318/600**N·m  
 (234.7/442.5 lbs-ft)



SL 3500Y series\_MILL Motor

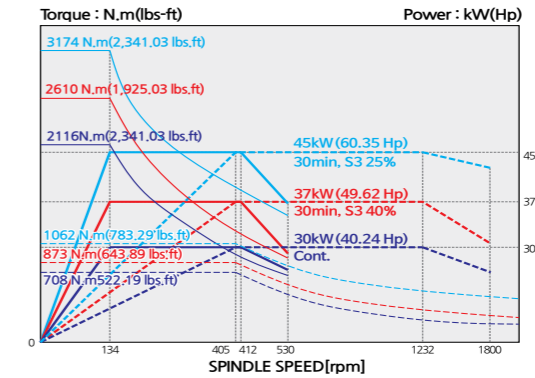
Max speed  
**4,500**rpm  
 Power (cont/Max.)  
**5.5/7.5**kW(7.38/10.06 Hp)  
 Torque (cont/Max.)  
**35/59.7**N·m  
 (25.82/44.04 lbs-ft)



Power-Torque Diagram

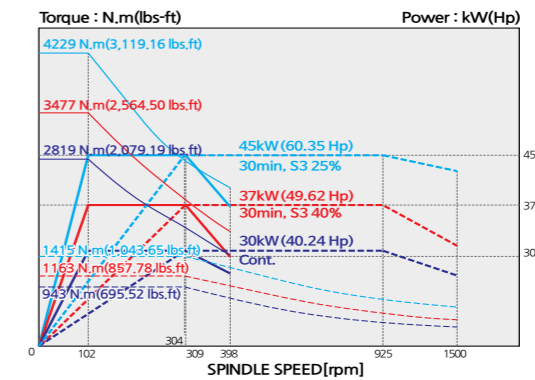
SL 4500XY/LY/XLY (A type)

Max speed  
**1,800**rpm  
 Power (cont/Max.)  
**30/45**kW(40.24/60.35 Hp)  
 Torque (cont/Max.)  
**2,116/3,174**N·m  
 (1,560.69/2,341.03 lbs-ft)



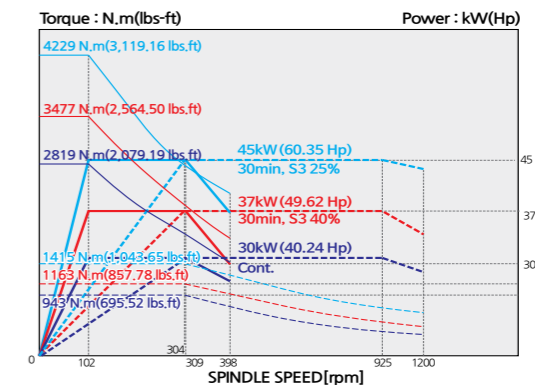
SL 4500XY/LY/XLY (B type)

Max speed  
**1,500**rpm  
 Power (cont/Max.)  
**30/45**kW(40.24/60.35 Hp)  
 Torque (cont/Max.)  
**2,819/4,229**N·m  
 (2,079.19/3,119.16 lbs-ft)



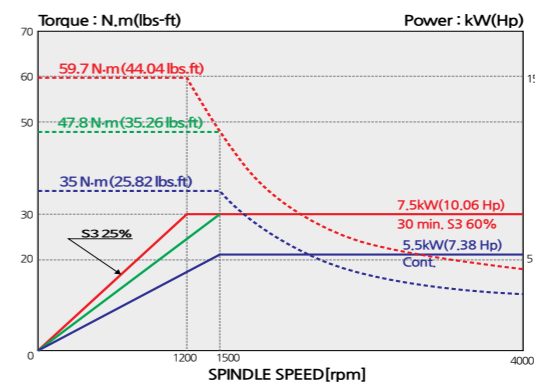
SL 4500XY/LY/XLY (C type)

Max speed  
**1,200**rpm  
 Power (cont/Max.)  
**30/45**kW(40.24/60.35 Hp)  
 Torque (cont/Max.)  
**2,819/4,229**N·m  
 (2,079.19/3,119.16 lbs-ft)



SL 4500Y series\_MILL Motor

Max speed  
**4,000**rpm  
 Power (cont/Max.)  
**5.5/7.5**kW(7.38/10.06 Hp)  
 Torque (cont/Max.)  
**35/59.7**N·m  
 (25.82/44.04 lbs-ft)

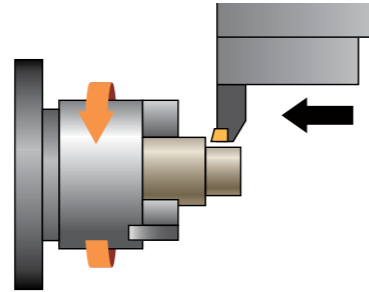


Cutting Performance

Test conditions : SL 4500LY, Material : SM45C

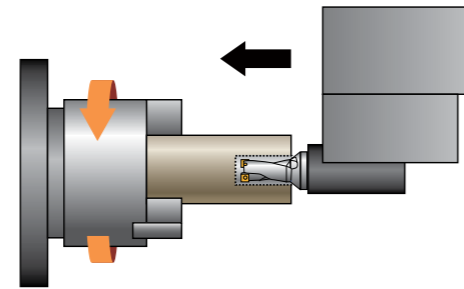
O.D Cutting

|                   |                  |              |
|-------------------|------------------|--------------|
| Cutting dia.      | mm(inch)         | Ø214(8.43)   |
| Cutting depth     | mm(inch)         | 9.5(0.38)    |
| Cutting speed     | m/min(ipm)       | 312(1.23)    |
| Spindle speed     | rpm              | 462          |
| Feedrate          | mm/rev(inch/rev) | 0.4(0.02)    |
| Chip removal rate | cc/min(oz/min)   | 1,233(41.70) |



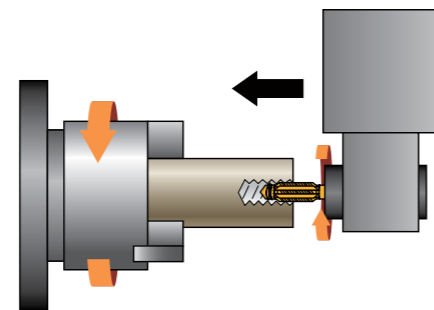
U-Drill Cutting

|                   |                  |               |
|-------------------|------------------|---------------|
| U-drill dia.      | mm(inch)         | Ø60(2.37)     |
| Cutting speed     | m/min(ipm)       | 130(5,118.12) |
| Spindle speed     | rpm              | 670           |
| Feedrate          | mm/rev(inch/rev) | 0.22(0.009)   |
| Chip removal rate | cc/min(oz/min)   | 286(9.68)     |



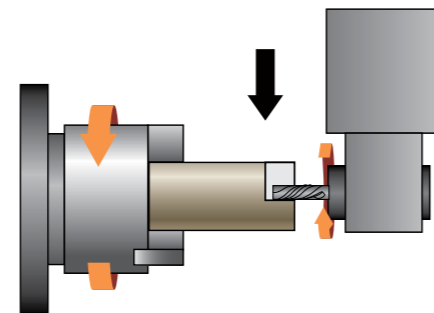
Tap

|               |                  |           |
|---------------|------------------|-----------|
| Tap size      | mm               | M22x2.5   |
| Cutting depth | mm(inch)         | 25(0.99)  |
| Cutting speed | m/min(ipm)       | 8(314.97) |
| Spindle speed | rpm              | 120       |
| Feedrate      | mm/rev(inch/rev) | 2.5(0.10) |



Endmill

|                   |                |               |
|-------------------|----------------|---------------|
| Endmill dia.      | mm(inch)       | Ø25(0.99)     |
| Cutting depth     | mm(inch)       | 5(0.20)       |
| Cutting speed     | m/min(ipm)     | 220(8,661.42) |
| Spindle speed     | rpm            | 2,800         |
| Feedrate          | mm/min(ipm)    | 1,008(39.69)  |
| Chip removal rate | cc/min(oz/min) | 151(5.11)     |

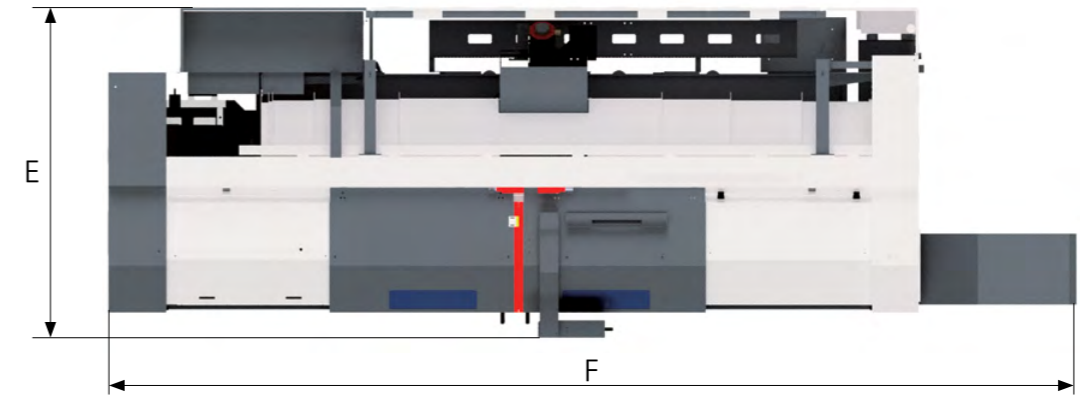


※ The above data is based on internal testing. Values may change depending on cutting conditions.

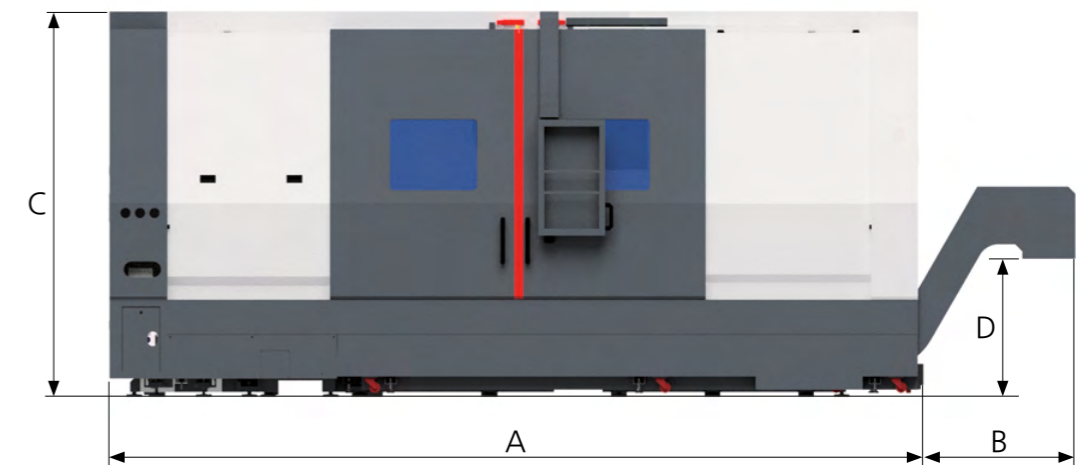
Machine Dimensions

Unit : mm(inch)

Top view



Front view



| Model      | A<br>(Machine front) | B            | C<br>(Machine height) | D          | E<br>(Machine side) | F             |
|------------|----------------------|--------------|-----------------------|------------|---------------------|---------------|
| SL 3500Y   | 4,290(168.90)        | 992(34.06)   | 2,289(90.12)          | 860(33.86) | 2,162(85.12)        | 5,268(207.40) |
| SL 3500SY  | 4,290(168.90)        | 992(34.06)   | 2,289(90.12)          | 860(33.86) | 2,162(85.12)        | 5,268(207.40) |
| SL 3500LY  | 5,450(214.57)        | 1,056(41.58) | 2,289(90.12)          | 860(33.86) | 2,162(85.12)        | 6,507(256.18) |
| SL 4500XY  | 5,569(219.26)        | 961(37.80)   | 2,656(104.57)         | 790(31.11) | 2,270(89.38)        | 6,530(257.09) |
| SL 4500LY  | 6,350(250.00)        | 977(38.47)   | 2,629(103.51)         | 844(33.23) | 2,379(93.67)        | 7,327(288.47) |
| SL 4500XLY | 8,700(342.52)        | 1,197(47.13) | 2,683(105.63)         | 854(33.63) | 2,493(98.15)        | 9,897(389.65) |

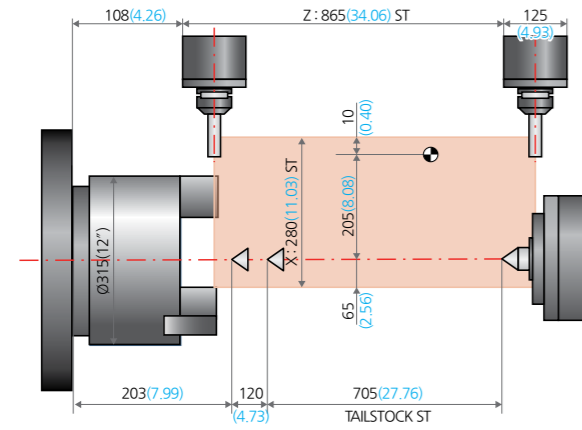


Work Range

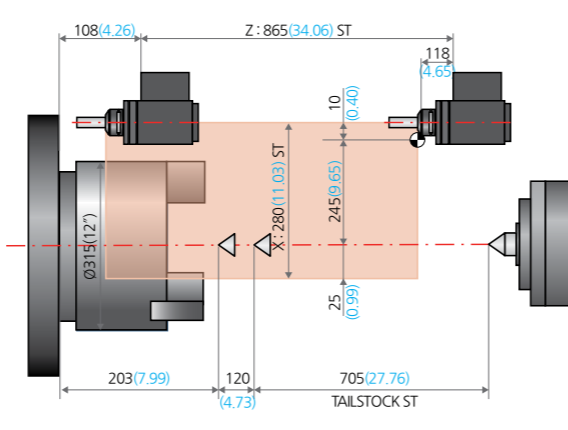
Unit : mm(inch)

SL 3500Y

AXIAL DRIVEN CUT

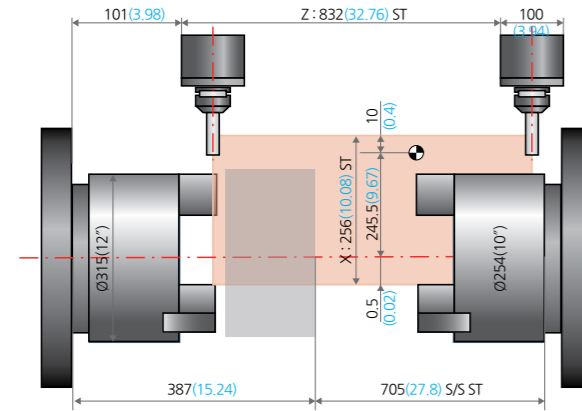


RADIAL DRIVEN CUT

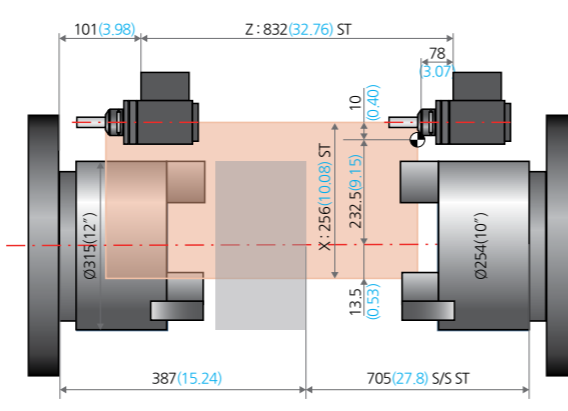


SL 3500SY

AXIAL DRIVEN CUT

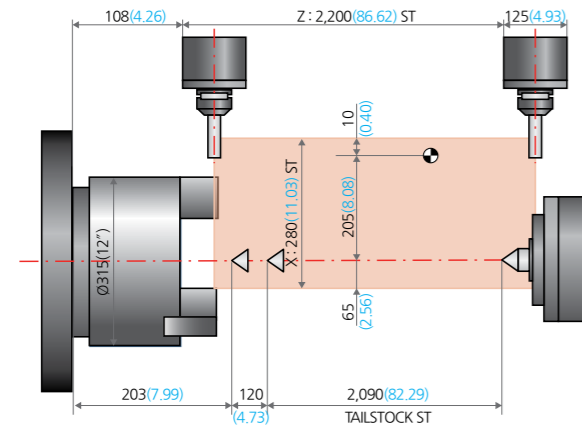


RADIAL DRIVEN CUT

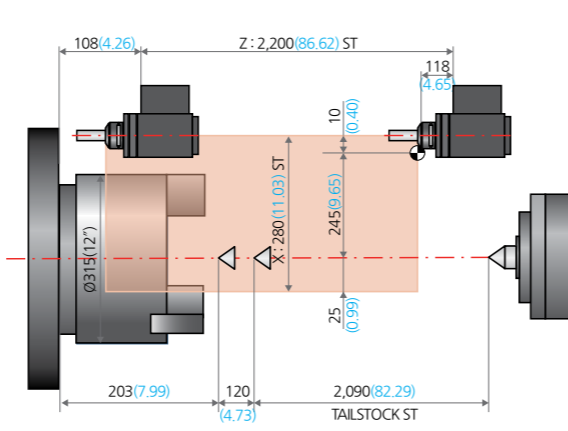


SL 3500LY

AXIAL DRIVEN CUT



RADIAL DRIVEN CUT

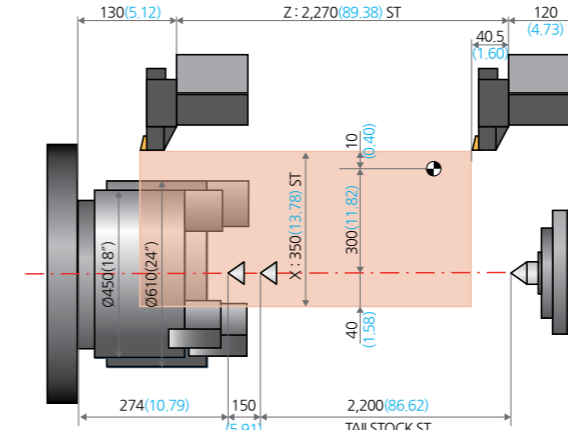


Work Range

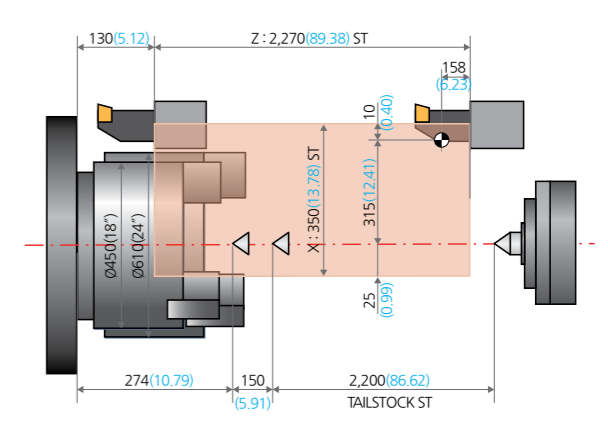
Unit : mm(inch)

SL 4500XY

O.D Tool

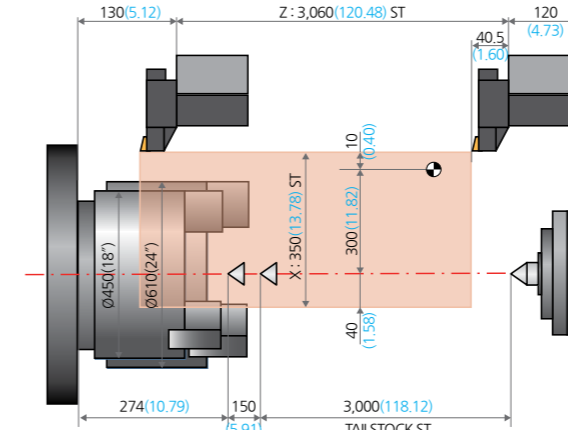


I.D Tool

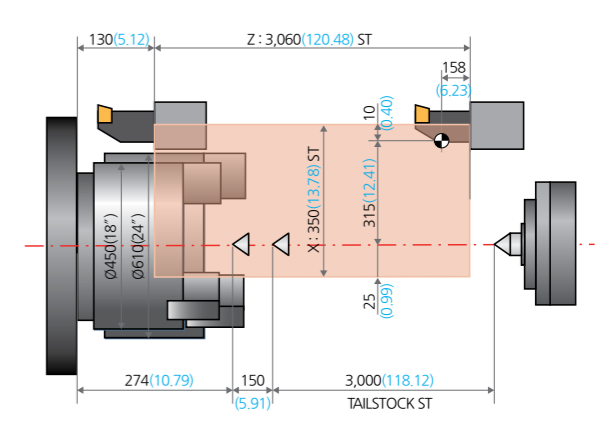


SL 4500LY

O.D Tool

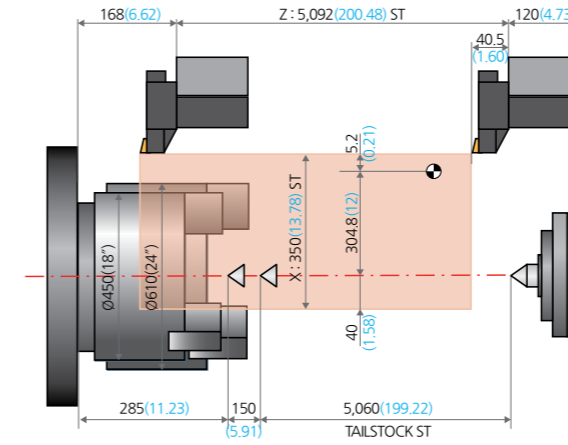


I.D Tool

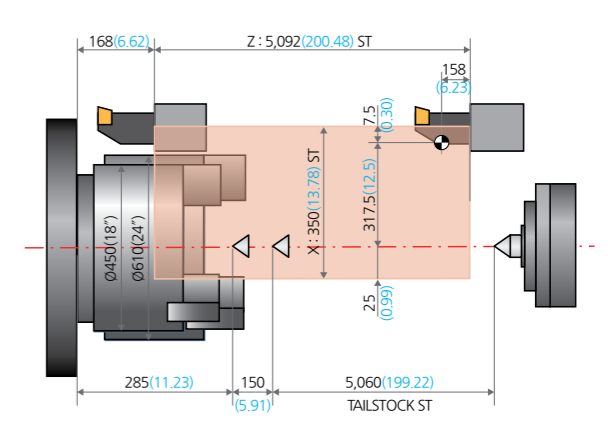


SL 4500XLY

O.D Tool



I.D Tool

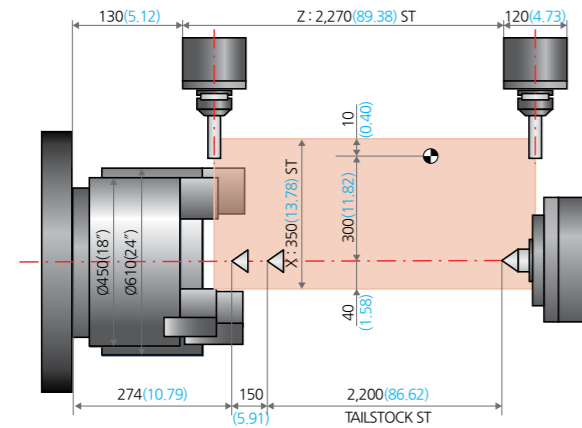


Work Range

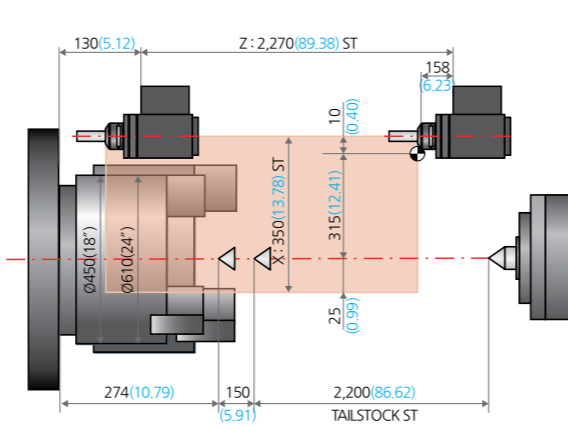
Unit : mm(inch)

SL 4500XY

AXIAL DRIVEN CUT

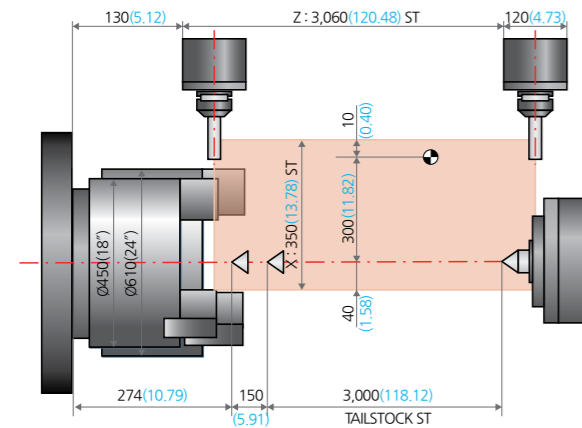


RADIAL DRIVEN CUT

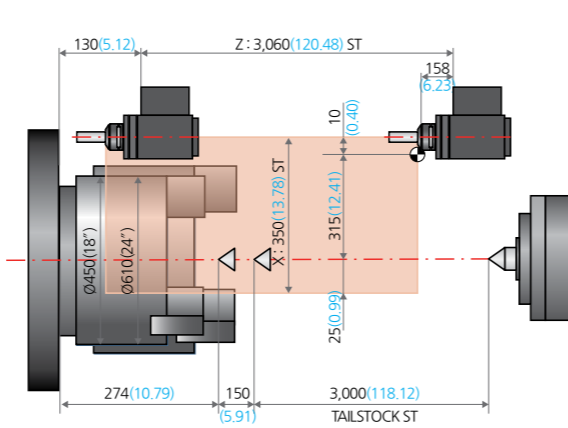


SL 4500LY

AXIAL DRIVEN CUT

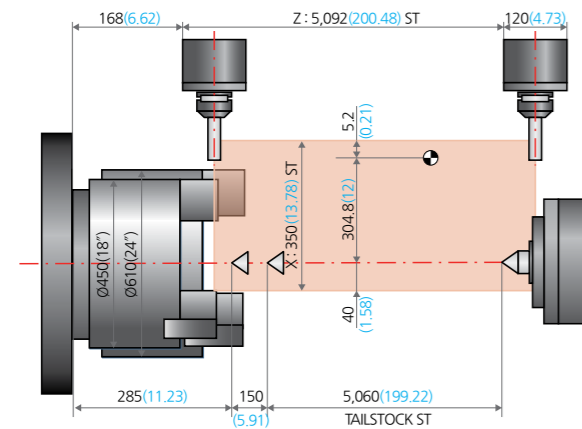


RADIAL DRIVEN CUT

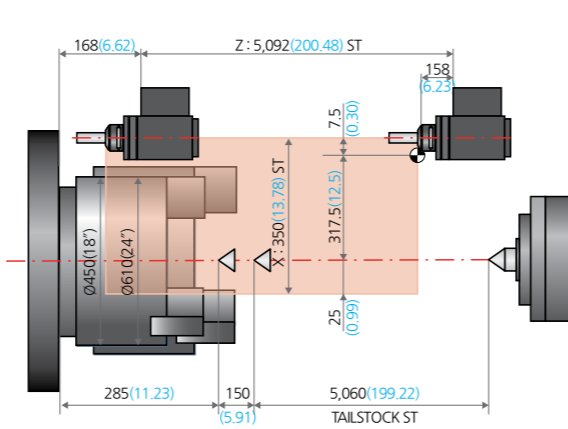


SL 4500XLY

AXIAL DRIVEN CUT

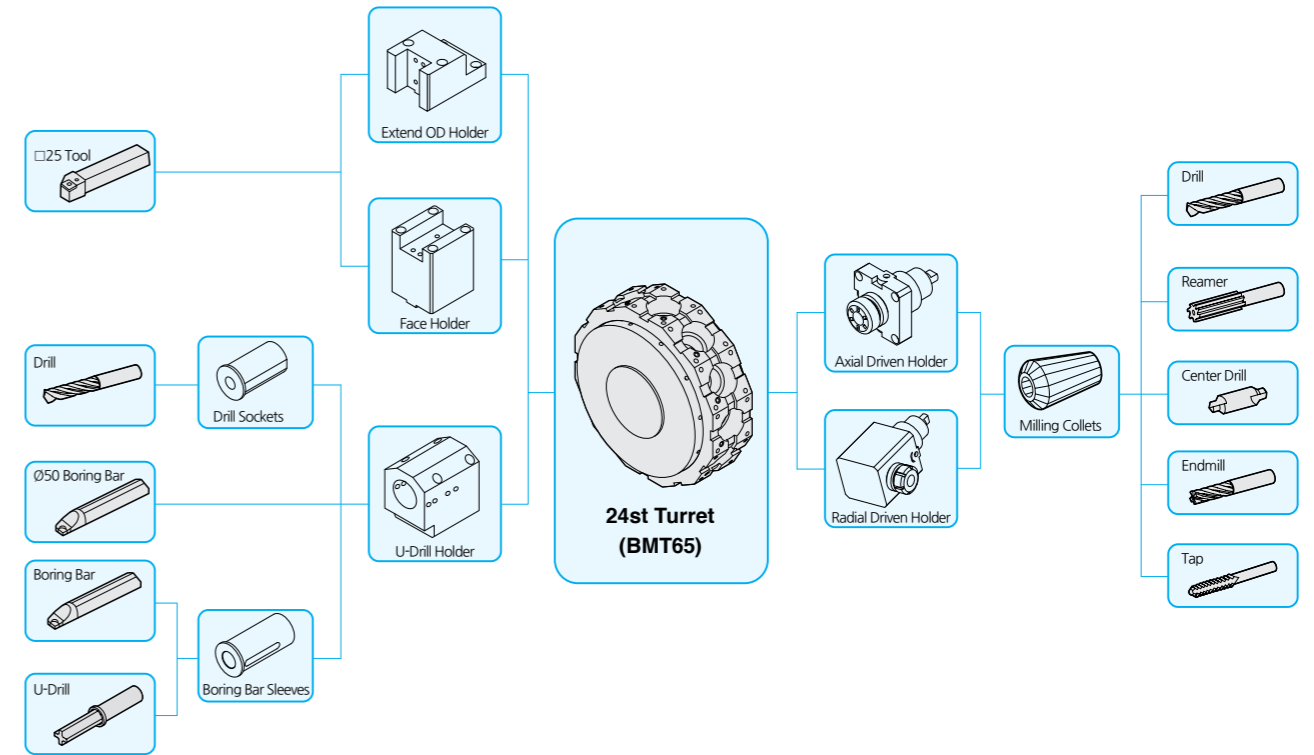


RADIAL DRIVEN CUT



Tooling System

Unit : mm(inch)



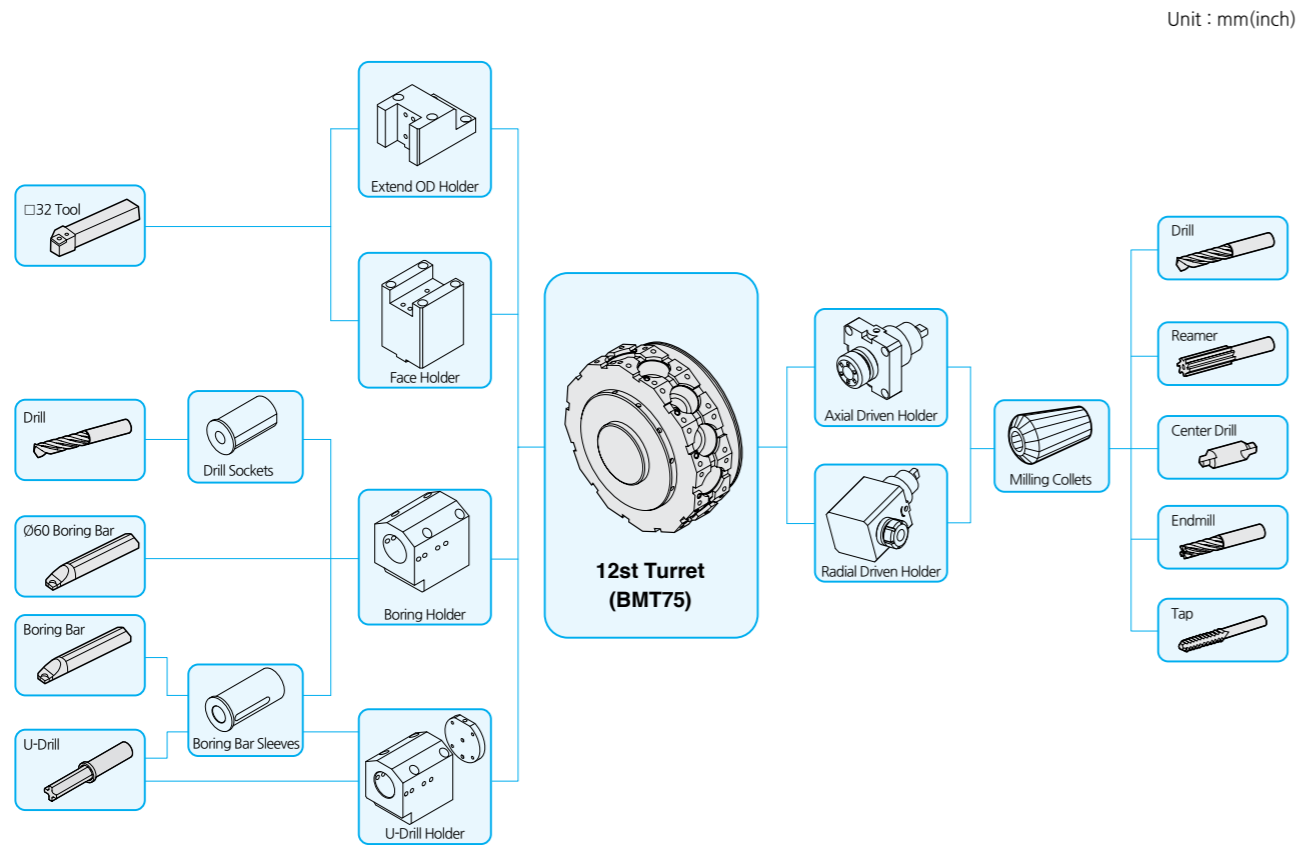
Standard Tooling

| Item / Description |                      | SL 3500Y/LY   | SL 3500SY              |
|--------------------|----------------------|---------------|------------------------|
| Turning Holder     | OD HOLDER            | -             | 3(EXTENSION OD HOLDER) |
|                    | Facing Holder        | -             | 1                      |
| Boring Holder      | BORING HOLDER        | -             | -                      |
|                    | U-Drill Holder       | -             | 4                      |
| Driven Holder      | AXIAL DRIVEN HOLDER  | -             | 2                      |
|                    | RADIAL DRIVEN HOLDER | -             | 2                      |
| Socket             | Boring               | Ø10 (Ø3/8")   | 1                      |
|                    |                      | Ø12 (Ø1/2")   | 1                      |
|                    |                      | Ø16 (Ø5/8")   | 1                      |
|                    |                      | Ø20 (Ø3/4")   | 1                      |
|                    |                      | Ø25 (Ø1")     | 1                      |
|                    |                      | Ø32 (Ø1 1/4") | 1                      |
|                    |                      | Ø40 (Ø1 1/2") | 1                      |
|                    | Drill                | MT3           | 1                      |
| MT4                |                      | 1             |                        |

# SL 3500/4500Y Series

Y-AXIS HORIZONTAL TURNING CENTER

## Tooling System



### Standard Tooling

| Item / Description |                      | SL 4500XY/LY/XLY |   |
|--------------------|----------------------|------------------|---|
| Turning Holder     | EXTENSION OD HOLDE   | -                | 4 |
|                    | Facing Holder        | -                | 1 |
| Boring Holder      | BORING HOLDER        | -                | 2 |
|                    | U-Drill Holder       | -                | 1 |
| Driven Holder      | AXIAL DRIVEN HOLDER  | -                | 2 |
|                    | RADIAL DRIVEN HOLDER | -                | 2 |
| Socket             | Boring               | Ø12 (Ø1/2")      | 1 |
|                    |                      | Ø16 (Ø5/8")      | 1 |
|                    |                      | Ø20 (Ø3/4")      | 1 |
|                    |                      | Ø25 (Ø1")        | 1 |
|                    |                      | Ø32 (Ø1 1/4")    | 1 |
|                    |                      | Ø40 (Ø1 1/2")    | 1 |
|                    |                      | Ø50 (Ø2")        | 1 |
| Drill              | Drill                | MT 2             | 1 |
|                    |                      | MT 3             | 1 |
|                    |                      | MT 4             | 1 |
|                    |                      | MT 5             | 1 |

## Standard / Optional

● : Standard ○ : Optional △ : Discuss X : N/A

| Category                                     |   | SL 3500Y series               | SL 3500LY series | SL 3500SY series | SL 4500Y series |   |   |
|--|---|-------------------------------|------------------|------------------|-----------------|---|---|
| Spindle                                      | 3 jaw open-center chuck                           | ●                             | ●                | ●                | ●               |   |   |
|  | 3 jaw closed-center chuck                         | X                             | X                | X                | X               |   |   |
|  | Soft jaw (3set)                                   | ●                             | ●                | ●                | ●               |   |   |
|  | Hard jaw (1set)                                   | ○                             | ○                | ○                | ○               |   |   |
|  | Chuck clamp footswitch                            | ●                             | ●                | ●                | ●               |   |   |
|  | Dual pressure chucking                            | ○                             | ○                | ○                | ○               |   |   |
|  | C-axis control (0.001°)                           | ●                             | ●                | ●                | ●               |   |   |
|  | Chuck clamp confirmation                          | ●                             | ●                | ●                | ●               |   |   |
|  | Chuck dual footswitch                             | ○                             | ○                | ○                | ○               |   |   |
|  | Chuck dual footswitch                             | ○                             | ○                | ○                | ○               |   |   |
| Turret                                       | Tool holder                                       | ●                             | ●                | ●                | ●               |   |   |
|  | Rotary holder type                                | BMT                           | ●                | ●                | ●               |   |   |
|  | Rotary holder (axial)                             | ●                             | ●                | ●                | ●               |   |   |
|  | Rotary holder (radial)                            | ●                             | ●                | ●                | ●               |   |   |
|  | Boring bar sleeve (same as U-drill holder sleeve) | ●                             | ●                | ●                | ●               |   |   |
|  | Drill socket                                      | ●                             | ●                | ●                | ●               |   |   |
|  | U-drill holder                                    | ●                             | ●                | ●                | ●               |   |   |
|  | U-drill holder                                    | ●                             | ●                | ●                | ●               |   |   |
| Tailstock                                    | Nc (Servo motor) tailstock                        | ●                             | X                | X                | X               |   |   |
|  | Programmable tailstock                            | X                             | ●                | X                | ●               |   |   |
|  | Dead center                                       | ●                             | ●                | X                | ●               |   |   |
|  | Live center                                       | X                             | X                | X                | X               |   |   |
|  | Dual pressure tailstock                           | X                             | ○                | X                | ○               |   |   |
|  | Quill forward/Reverse confirmation                | X                             | ●                | X                | ●               |   |   |
|  | Tailstock foot switch                             | ○                             | ○                | X                | ○               |   |   |
| Coolant & Air Blow                           | Standard coolant (nozzle)                         | ○                             | ○                | ○                | ○               |   |   |
|  | Coolant above chuck                               | ○                             | ○                | ○                | ○               |   |   |
|  | Coolant gun                                       | ○                             | ○                | ○                | ○               |   |   |
|  | Bed flushing                                      | ○                             | ○                | ○                | ○               |   |   |
|  | Air blower  | ○                             | ○                | ○                | ○               |   |   |
|  | Rotary tool holder TSC                            | ○                             | ○                | ○                | ○               |   |   |
|  | Air gun   | ○                             | ○                | ○                | ○               |   |   |
|  | Coolant pump                                      | Coolant pump                  | 4.5Bar           | ●                | ●               | ● |   |
|  |   |                               | 7Bar             | ○                | ○               | ○ |   |
|  |   |                               | 10Bar            | ○                | ○               | ○ |   |
| 14.5Bar                                      |   |                               | ○                | ○                | ○               |   |   |
| 20Bar  |   |                               | ○                | ○                | ○               |   |   |
| Coolant chiller                              | ○   | ○                             | ○                | ○                |                 |   |   |
| Chip Disposal                                | Coolant tank                                      | ●                             | ●                | ●                | ●               |   |   |
|  | Chip conveyor (Hinge / Scraper)                   | Side                          | ●                | ●                | ●               | ● |   |
|  |   | Rear                          | △                | △                | △               | △ |   |
|  | Special chip conveyor (drum filter)               | △                             | △                | △                | △               |   |   |
| Chip bucket                                  | Fixed 380L  | ○                             | ○                | ○                | ○               |   |   |
| Safety Features                              | Door interlock                                    | ●                             | ●                | ●                | ●               |   |   |
|  | Backspin torque limiter(BST)                      | ○                             | ○                | ○                | ○               |   |   |
|  | Torque limiter                                    | ○                             | ○                | ○                | ○               |   |   |
|  | Full splash guard                                 | ●                             | ●                | ●                | ●               |   |   |
|  | Chuck hyd pressure interlock                      | △                             | △                | △                | △               |   |   |
|  | Electrical  | 3 step patrol lamp and buzzer | ●                | ●                | ●               | ● |   |
|  |   | Lamp for electrical cabinet   | ○                | ○                | ○               | ○ |   |
|  |   | Remote MPG                    | ○                | ○                | ○               | ○ |   |
|  |   | Work counter                  | Digital          | ○                | ○               | ○ | ○ |
|  |   | Total counter                 | Digital          | ○                | ○               | ○ | ○ |
| Tool counter                                 |   | Digital                       | ○                | ○                | ○               | ○ |   |
| Multi counter                                |   | 6EA                           | ○                | ○                | ○               | ○ |   |
|  |   | 9EA                           | ○                | ○                | ○               | ○ |   |
| Grounded circuit breaker                     |   | ○                             | ○                | ○                | ○               |   |   |
| AVR(Auto Voltage Regulator)                  |   | ○                             | ○                | ○                | ○               |   |   |
| Transformer                                  | ○   | ○                             | ○                | ○                |                 |   |   |
| Auto Power Off                               | ○   | ○                             | ○                | ○                |                 |   |   |
| Measurement                                  | Tool Presetter                                    | Manual                        | ○                | ○                | ○               | ○ |   |
|  |   | Auto                          | ○                | ○                | ○               | ○ |   |
|  | Air zero measuring device (for special chuck)     | TACO                          | △                | △                | △               | △ |   |
|  |   | SMC                           | △                | △                | △               | △ |   |
|  | Linear scale                                      | X-axis                        | ○                | ○                | ○               | ○ |   |
|  |   | Y-axis                        | ○                | ○                | ○               | ○ |   |
|  |   | Z-axis                        | ○                | ○                | ○               | ○ |   |
| Coolant level gauge (requires chip conveyor) | ○   | ○                             | ○                | ○                |                 |   |   |
| Environmental                                | Air conditioner for electrical cabinet            | ○                             | ○                | ○                | ○               |   |   |
|  | Dehumidifier                                      | △                             | △                | △                | △               |   |   |
|  | Oil mist collector                                | ○                             | ○                | ○                | ○               |   |   |
|  | Oil skimmer                                       | ○                             | ○                | ○                | ○               |   |   |
|  | MQL(Minimal Quantity Lubrication)                 | △                             | △                | △                | △               |   |   |
| Automation                                   | Auto door   | ○                             | ○                | ○                | ○               |   |   |
|  | Auto shutter (for automation solutions)           | △                             | △                | △                | △               |   |   |
|  | Sub controller                                    | △                             | △                | △                | △               |   |   |
|  | Barfeeder interface                               | ○                             | ○                | ○                | ○               |   |   |
|  | Additional M-codes (4 pairs)                      | ○                             | ○                | ○                | ○               |   |   |
|  | Automation interface                              | ○                             | ○                | ○                | ○               |   |   |
| I/O expansion (including both IN and OUT)    | 16contacts  | ○                             | ○                | ○                | ○               |   |   |
|  | 32contacts  | ○                             | ○                | ○                | ○               |   |   |
| Hydraulic Supply                             | Standard hydraulic cylinder                       | Open-center                   | ○                | ○                | ○               | ○ |   |
|  | Standard hydraulic unit                           | 35Bar                         | ○                | ○                | ○               | ○ |   |

※ For detailed information, please contact your local SMEC dealer.

# SL 3500/4500Y Series

## Y-AXIS HORIZONTAL TURNING CENTER

### Machine Specifications

[ ] : Option

| Category              |   |                       | SL 3500Y   |                           | SL 3500SY  |                           | SL 3500LY  |                           |
|-----------------------|---|-----------------------|--|---------------------------|--|---------------------------|--|---------------------------|
|                       |   |                       | A type   | B type                    | A type   | B type                    | A type   | B type                    |
| Chuck                 | Chuck size (main/sub)                   | inch                  | 12"/-  | 15"/-                     | 12"/10"  | 15"/10"                   | 12"/-  | 15"/-                     |
| Capacity              | Swing over bed                          | mm(inch)              | 850(33.47)   | 850(33.47)                | 850(33.47)   | 850(33.47)                | 850(33.47)   | 850(33.47)                |
|                       | Swing over cross-slide                  | mm(inch)              | 850(33.47)   | 850(33.47)                | 850(33.47)   | 850(33.47)                | 850(33.47)   | 850(33.47)                |
|                       | Max turning diameter                    | mm(inch)              | 430(16.93)   | 430(16.93)                | 423(16.65)   | 423(16.65)                | 430(16.93)   | 430(16.93)                |
|                       | Max milling diameter                    | mm(inch)              | 539(21.23)   | 539(21.23)                | 539(21.23)   | 539(21.23)                | 539(21.23)   | 539(21.23)                |
|                       | Max turning length                      | mm(inch)              | 795(31.30)   | 765(30.12)                | 755(29.72)   | 755(29.72)                | 2,125(83.67)   | 2,095(82.49)              |
| Spindle               | Spindle speed (main/sub)                | rpm                   | 2,500/-  | 2,000/-                   | 2,500/4,000  | 2,500/4,000               | 2,500/-  | 2,000/-                   |
|                       | Spindle nose (main/sub)                 | ASA                   | A2-11/-  | A2-11/-                   | A2-11/A2-8   | A2-11/A2-8                | A2-11/-  | A2-11/-                   |
|                       | Draw tube ID (main/sub)                 | mm(inch)              | 103(4.06)/-  | 117.5(4.63)/-             | 103(4.06)/82(3.23)                                       | 117.5(4.63)/82(3.23)      | 103(4.06)/-  | 117.5(4.63)/-             |
|                       | Spindle bore (main/sub)                 | mm(inch)              | 115(4.53)/-  | 132(5.20)/-               | 115(4.53)/91(3.58)                                       | 132(5.20)/91(3.58)        | 115(4.53)/-  | 132(5.20)/-               |
|                       | Main spindle motor (cont/max)           | kW(Hp)                | 18.5/26(24.81/34.87)                                     |                           | 18.5/26(24.81/34.87)                                     |                           | 18.5/26(24.81/34.87)                                     |                           |
|                       | Sub-spindle motor (cont/max)            | kW(Hp)                | -  |                           | 15/22(20.12/29.50)                                       |                           | -  |                           |
| Travels               | X-axis stroke                           | mm(inch)              | 280(11.03)   | 280(11.03)                | 280(11.03)   | 280(11.03)                | 280(11.03)   | 280(11.03)                |
|                       | Y-axis stroke                           | mm(inch)              | 130(±65)<br>(5.12(±2.56))                                | 130(±65)<br>(5.12(±2.56)) | 130(±65)<br>(5.12(±2.56))                                | 130(±65)<br>(5.12(±2.56)) | 130(±65)<br>(5.12(±2.56))                                | 130(±65)<br>(5.12(±2.56)) |
|                       | Z-axis stroke                           | mm(inch)              | 865(34.06)   | 865(34.06)                | 865(34.06)   | 865(34.06)                | 2,200(86.62)   | 2,200(86.62)              |
|                       | ZB-axis stroke                          | mm(inch)              | 705(27.76)   | 705(27.76)                | 705(27.76)   | 705(27.76)                | -  | -                         |
|                       | X-axis rapid traverse                   | m/min(ipm)            | 30(1,181.11)   | 30(1,181.11)              | 30(1,181.11)   | 30(1,181.11)              | 30(1,181.11)   | 30(1,181.11)              |
|                       | Y-axis rapid traverse                   | m/min(ipm)            | 10(393.71)   | 10(393.71)                | 10(393.71)   | 10(393.71)                | 10(393.71)   | 10(393.71)                |
|                       | Z-axis rapid traverse                   | m/min(ipm)            | 30(1,181.11)   | 30(1,181.11)              | 30(1,181.11)   | 30(1,181.11)              | 30(1,181.11)   | 30(1,181.11)              |
|                       | ZB-axis rapid traverse                  | m/min(ipm)            | 10(383.71)   | 10(383.71)                | 10(383.71)   | 10(383.71)                | -  | -                         |
| Turret                | No of tool positions                    | ea                    | 12 (BMT65)   | 12 (BMT65)                | 12 (BMT65)   | 12 (BMT65)                | 12 (BMT65)   | 12 (BMT65)                |
|                       | OD tool size                            | mm(inch)              | 25(0.99)   | 25(0.99)                  | 25(0.99)   | 25(0.99)                  | 25(0.99)   | 25(0.99)                  |
|                       | Boring bar diameter                     | mm(inch)              | 50(1.97)   | 50(1.97)                  | 50(1.97)   | 50(1.97)                  | 50(1.97)   | 50(1.97)                  |
|                       | Indexing time                           | sec                   | 0.25   | 0.25                      | 0.25   | 0.25                      | 0.25   | 0.25                      |
|                       | Rotary tool speed                       | rpm                   | 4,500  | 4,500                     | 4,500  | 4,500                     | 4,500  | 4,500                     |
|                       | Rotary tool motor (cont/max)            | kW(Hp)                | 5.5/7.5(7.38/10.06)                                      |                           | 5.5/7.5(7.38/10.06)                                      |                           | 5.5/7.5(7.38/10.06)                                      |                           |
|                       | Tailstock                               | Quill diameter        | mm(inch)   | -                         | -  | -                         | -  | 130(5.12)                 |
| Quill stroke          |   | mm(inch)              | -  | -                         | -  | -                         | 120(4.72)  | 120(4.72)                 |
| Quill taper           |   | MT                    | MT4 (Built-in)   | MT4 (Built-in)            | -  | -                         | MT4 (Built-in)   | MT4 (Built-in)            |
| Machine               | Size (with SIDE chip conveyor)<br>L×W×H | mm(inch)              | 4,290(5,268)×2,162×2,289<br>(168.90(207.40)×85.12×90.12) |                           | 4,290(5,268)×2,162×2,289<br>(168.90(207.40)×85.12×90.12) |                           | 5,450(6,506)×2,162×2,289<br>(214.57(256.15)×85.12×90.12) |                           |
|                       | Weight                                  | kg(lb)                | 7,000(15,432.36)   |                           | 7,000(15,432.36)   |                           | 10,500(23,148.54)  |                           |
|                       | Coolant tank capacity                   | Liter(gal)            | 180(47.56)   | 180(47.56)                | 180(47.56)   | 180(47.56)                | 261(68.95)   | 261(68.95)                |
| Electric power supply | kVA/V                                   | 50/220                | 50/220   | 50/220                    | 50/220   | 50/220                    | 50/220   |                           |
| Controller            |   | FANUC Oi-TF+, SIEMENS |  |                           |  |                           |  |                           |

※ Design and specifications are subject to change without notice.

### Machine Specifications

[ ] : Option

| Category              |   |                       | SL 4500XY   |                |                | SL 4500LY  |                |                |
|-----------------------|---|-----------------------|---|----------------|----------------|--|----------------|----------------|
|                       |   |                       | A type  | B type         | C type         | A type   | B type         | C type         |
| Chuck                 | Chuck size                              | inch                  | 18[15]"   | 21"            | 24"            | 18[15]"  | 21"            | 24"            |
| Capacity              | Swing over bed                          | mm(inch)              | 975(38.39)  | 975(38.39)     | 975(38.39)     | 975(38.39)   | 975(38.39)     | 975(38.39)     |
|                       | Swing over cross-slide                  | mm(inch)              | 830(32.68)  | 830(32.68)     | 830(32.68)     | 830(32.68)   | 830(32.68)     | 830(32.68)     |
|                       | Max turning diameter                    | mm(inch)              | 620(24.41)  | 620(24.41)     | 620(24.41)     | 620(24.41)   | 620(24.41)     | 620(24.41)     |
|                       | Max milling diameter                    | mm(inch)              | 704(27.72)  | 704(27.72)     | 704(27.72)     | 704(27.72)   | 704(27.72)     | 704(27.72)     |
|                       | Max turning length                      | mm(inch)              | 2,140(84.26)  | 2,117(83.35)   | 2,117(83.35)   | 2,930(115.36)  | 2,930(115.36)  | 2,930(115.36)  |
| Spindle               | Spindle speed                           | rpm                   | 1,800[2,000]  | 1,500          | 1,200          | 1,800[2,000]   | 1,500          | 1,200          |
|                       | Spindle nose                            | ASA                   | A2-11   | A2-15          | A2-15          | A2-11  | A2-15          | A2-15          |
|                       | Draw tube ID                            | mm(inch)              | 117.5(4.63)   | 140(5.52)      | 166.5(6.56)    | 117.5(4.63)  | 140(5.52)      | 166.5(6.56)    |
|                       | Spindle bore                            | mm(inch)              | 132(5.20)   | 181(7.13)      | 181(7.13)      | 132(5.20)  | 181(7.13)      | 181(7.13)      |
|                       | Main spindle motor (cont/max)           | kW(Hp)                | 30/45(40.24/60.35)  |                |                | 30/45(40.24/60.35)                                     |                |                |
|                       | Travels                                 | X-axis stroke         | mm(inch)  | 350(13.78)     | 350(13.78)     | 350(13.78)   | 350(13.78)     | 350(13.78)     |
| Y-axis stroke         |   | mm(inch)              | 200(±100)(7.88(±3.94))                                    |                |                | 200(±100)(7.88(±3.94))                                 |                |                |
| Z-axis stroke         |   | mm(inch)              | 2,270(89.38)  | 2,270(89.38)   | 2,270(89.38)   | 3,060(120.48)  | 3,060(120.48)  | 3,060(120.48)  |
| X-axis rapid traverse |   | m/min(ipm)            | 20(787.41)  | 20(787.41)     | 20(787.41)     | 20(787.41)   | 20(787.41)     | 20(787.41)     |
| Y-axis rapid traverse |   | m/min(ipm)            | 15(590.56)  | 15(590.56)     | 15(590.56)     | 15(590.56)   | 15(590.56)     | 15(590.56)     |
| Z-axis rapid traverse |   | m/min(ipm)            | 18(708.67)  | 18(708.67)     | 18(708.67)     | 18(708.67)   | 18(708.67)     | 18(708.67)     |
| Turret                |   | No of tool positions  | ea  | 12 (BMT75)     | 12 (BMT75)     | 12 (BMT75)   | 12 (BMT75)     | 12 (BMT75)     |
|                       | OD tool size                            | mm(inch)              | 32(1.26)  | 32(1.26)       | 32(1.26)       | 32(1.26)   | 32(1.26)       | 32(1.26)       |
|                       | Boring bar diameter                     | mm(inch)              | 60(2.37)  | 60(2.37)       | 60(2.37)       | 60(2.37)   | 60(2.37)       | 60(2.37)       |
|                       | Indexing time                           | sec                   | 0.25  | 0.25           | 0.25           | 0.25   | 0.25           | 0.25           |
|                       | Rotary tool speed                       | rpm                   | 4,000   | 4,000          | 4,000          | 4,000  | 4,000          | 4,000          |
|                       | Rotary tool motor (cont/max)            | kW(Hp)                | 5.5/7.5(7.38/10.06)                                       |                |                | 5.5/7.5(7.38/10.06)                                    |                |                |
| Tailstock             | Quill diameter                          | mm(inch)              | 160(6.30)   | 160(6.30)      | 160(6.30)      | 160(6.30)  | 160(6.30)      | 160(6.30)      |
|                       | Quill stroke                            | mm(inch)              | 150(5.91)   | 150(5.91)      | 150(5.91)      | 150(5.91)  | 150(5.91)      | 150(5.91)      |
|                       | Quill taper                             | MT                    | MT5 (Built-in)  | MT5 (Built-in) | MT5 (Built-in) | MT5 (Built-in)   | MT5 (Built-in) | MT5 (Built-in) |
| Machine               | Size (with SIDE chip conveyor)<br>L×W×H | mm(inch)              | 5,570(6,530)×2,303×2,659<br>(219.30(257.09)×90.67×104.69) |                |                | 6,350(7,327)×2,303×2,659<br>(250(288.47)×90.67×104.69) |                |                |
|                       | Weight                                  | kg(lb)                | 17,000(37,478.59)   |                |                | 22,000(48,501.70)                                      |                |                |
|                       | Coolant tank capacity                   | Liter(gal)            | 400(105.67)   | 400(105.67)    | 400(105.67)    | 600(158.51)  | 600(158.51)    | 600(158.51)    |
| Electric power supply | kVA/V                                   | 63/220                | 63/220  | 63/220         | 63/220         | 63/220   | 63/220         |                |
| Controller            |   | FANUC Oi-TF+, SIEMENS |   |                |                |  |                |                |

※ Design and specifications are subject to change without notice.

# SL 3500/4500Y Series

## Y-AXIS HORIZONTAL TURNING CENTER

### Machine Specifications

[ ] : Option

| Category              |                                      |                       | SL 4500XLY  |                        |                        |
|-----------------------|--------------------------------------|-----------------------|---|------------------------|------------------------|
|                       |                                      |                       | A type  | B type                 | C type                 |
| Chuck                 | Chuck size                           | inch                  | 18[15]"   | 21"                    | 24"                    |
| Capacity              | Swing over bed                       | mm(inch)              | 975(38.39)  | 975(38.39)             | 975(38.39)             |
|                       | Swing over cross-slide               | mm(inch)              | 830(32.68)  | 830(32.68)             | 830(32.68)             |
|                       | Max turning diameter                 | mm(inch)              | 620(24.41)  | 620(24.41)             | 620(24.41)             |
|                       | Max milling diameter                 | mm(inch)              | 704(27.72)  | 704(27.72)             | 704(27.72)             |
| Travels               | Max turning length                   | mm(inch)              | 5,000(196.86)   | 5,000(196.86)          | 5,000(196.86)          |
|                       | Spindle speed                        | rpm                   | 1,800[2,000]  | 1,500                  | 1,200                  |
| Spindle               | Spindle nose                         | ASA                   | A2-11   | A2-15                  | A2-15                  |
|                       | Draw tube ID                         | mm(inch)              | 117.5(4.63)   | 140(5.52)              | 166.5(6.56)            |
|                       | Spindle bore                         | mm(inch)              | 132(5.20)   | 181(7.13)              | 181(7.130)             |
|                       | Main spindle motor (cont/max)        | kW(Hp)                | 30/45(40.24/60.35)  | 30/45(40.24/60.35)     | 30/45(40.24/60.35)     |
|                       | X-axis stroke                        | mm(inch)              | 350(13.78)  | 350(13.78)             | 350(13.78)             |
| Turret                | Y-axis stroke                        | mm(inch)              | 200(±100)(7.88(±3.94))                                    | 200(±100)(7.88(±3.94)) | 200(±100)(7.88(±3.94)) |
|                       | Z-axis stroke                        | mm(inch)              | 5,090(200.40)   | 5,090(200.40)          | 5,090(200.40)          |
|                       | X-axis rapid traverse                | m/min(ipm)            | 20(787.41)  | 20(787.41)             | 20(787.41)             |
|                       | Y-axis rapid traverse                | m/min(ipm)            | 15(590.56)  | 15(590.56)             | 15(590.56)             |
|                       | Z-axis rapid traverse                | m/min(ipm)            | 18(708.67)  | 18(708.67)             | 18(708.67)             |
|                       | No of tool positions                 | ea                    | 12 (BMT75)  | 12 (BMT75)             | 12 (BMT75)             |
| Tailstock             | OD tool size                         | mm(inch)              | 32(1.26)  | 32(1.26)               | 32(1.26)               |
|                       | Boring bar diameter                  | mm(inch)              | 60(2.37)  | 60(2.37)               | 60(2.37)               |
|                       | Indexing time                        | sec                   | 0.25  | 0.25                   | 0.25                   |
|                       | Rotary tool speed                    | rpm                   | 4,000   | 4,000                  | 4,000                  |
|                       | Rotary tool motor (cont/max)         | kW(Hp)                | 5.5/7.5(7.38/10.06)                                       | 5.5/7.5(7.38/10.06)    | 5.5/7.5(7.38/10.06)    |
|                       | Quill diameter                       | mm(inch)              | 160(6.30)   | 160(6.30)              | 160(6.30)              |
| Machine               | Quill stroke                         | mm(inch)              | 150(5.91)   | 150(5.91)              | 150(5.91)              |
|                       | Quill taper                          | MT                    | MT5 (Built-in)  | MT5 (Built-in)         | MT5 (Built-in)         |
|                       | Size (with SIDE chip conveyor) L×W×H | mm(inch)              | 8,700(9,897)×2,493×2,683<br>(342.52(389.65)×98.15×105.63) |                        |                        |
| Machine               | Weight                               | kg(lb)                | 25,000(55,115.57)   | 25,000(55,115.57)      | 25,000(55,115.57)      |
|                       | Coolant tank capacity                | Liter(gal)            | 850(224.55)   | 850(224.55)            | 850(224.55)            |
| Electric power supply | kVA/V                                | 63/220                | 63/220  | 63/220                 |                        |
| Controller            |                                      | FANUC Oi-TF+, SIEMENS |   |                        |                        |

\* Design and specifications are subject to change without notice.

### NC Specification / FANUC

● : STD ○ : Optional X : N/A

| Functions                 |  | Oi-TF+                     | Functions                               |   | Oi-TF+                   |
|---------------------------|--|----------------------------|---|---|--------------------------|
| Controlled axis           | Controlled axes                        | X, Z, Y, C                 | Program input                           | Absolute / incremental command            | G90/G91                  |
|                           | Max simultaneously controlled axes     | 4                          |   | Repeating canned cycle                    | ●                        |
|                           | Least input increment                  | 0.001mm / 0.0001"          |   | Repeating canned cycle 2                  | ●                        |
|                           | Built-in stroke limit                  | Soft overtravel 1, 2, 3, 4 |   | Canned cycles                             | ●                        |
|                           | Machine lock                           | ●                          |   | Drilling canned cycle                     | ●                        |
| Operation functions       | Manual handle feed                     | X1, X10, X100              |   | Decimal point input                       | ●                        |
|                           | Dry run                                | ●                          |   | Inch / metric conversion                  | G20 / G21                |
|                           | Single block                           | ●                          |   | Program restart                           | ●                        |
|                           | Feed per minute                        | G94                        |   | Sub program call                          | ●                        |
|                           | Feed per revolution                    | G95                        |   | Max programmable value                    | ±99999.999mm/±9999.9999" |
|                           | DNC operation                          | Ethernet, CF card          |   | M function                                | 3 digit                  |
|                           | Thread cutting pause                   | ○                          |   | Custom macro                              | ●                        |
| Interpolation functions   | Linear interpolation                   | G01                        |   | Addition of custom macro common variables | #100~#199, #500~#999     |
|                           | Circular interpolation                 | G02, G03                   |   | Direct drawing dimension programming      | ●                        |
|                           | Dwell                                  | G04                        |   | Programmable data input                   | G10                      |
|                           | Cylindrical interpolation              | G70.1                      | Tape code                               | ISO / EIA                                 |                          |
|                           | Skip                                   | G31                        | Optional block skip                     | ●   |                          |
|                           | Nano smoothing                         | X                          | Workpiece coordinate system             | G52 ~ G59                                 |                          |
|                           | Polar coordinate interpolation         | ●                          | Addition of workpiece coordinate system | X   |                          |
|                           | Reference position (zero) return       | G28                        | Interface function                      | Embedded ethernet                         | ●                        |
|                           | Reference position (zero) return check | G27                        |   | Fast ethernet                             | X                        |
|                           | 2nd, 3rd, 4th reference point return   | G30                        | Setting and display                     | Alarm and operator history display        | ●                        |
|                           | Variable lead thread cutting           | ●                          |   | Run hour and parts count display          | ●                        |
| Thread repair             | ●                                      | Loadmeter display          |   | ●   |                          |
| Feed function             | Rapid traverse override                | F0, 25%, 50%, 100%         |   | Self diagnosis function                   | ●                        |
|                           | Feedrate override                      | 0~200%                     |   | Extended part program editing             | ●                        |
|                           | Jog override                           | ●                          |   | Machining condition selection function    | ○                        |
|                           | AI look ahead                          | X                          | Machining quality level adjustment      | X   |                          |
| Spindle function          | AI contour control II                  | ○ (200 block)              | Display screen                          | 15" color LCD                             |                          |
|                           | Spindle orientation                    | ●                          | Multi-language display                  | 25 language                               |                          |
|                           | Rigid tapping                          | M29                        | Data input/output                       | Fast data server                          | X                        |
| Spindle override          | S0 ~ 150%                              | RS232C interface           |   | ●   |                          |
| Arbitrary speed threading | ○                                      | Memory card input / output |   | ●   |                          |
| Tool functions            | Tool number command                    | T4-Digt Tool number        | USB memory input / output               | ●   |                          |
|                           | Tool nose radius compensation          | G40 ~ G42                  | Editing operation                       | Part program storage size                 | 512Kbyte(2Mbyte)         |
|                           | Tool offset pairs                      | 128-pairs                  |   | Number of registered programs             | 400(1,000) EA            |
|                           | Tool geometry / wear offset            | ●                          |   | Manual guide Oi                           | ○                        |
|                           | Tool length compensation               | ●                          | Manual guide i                          | ●   |                          |
|                           | Tool life management                   | ●                          |   |   |                          |
| Tool path graphic display | ●                                      |                            |   |   |                          |