SIMEC

# SL 4000L Series

HORIZONTAL TURNING CENTER

WSF

WERKZEUGMASCHINEN

**SL 4000L Series**

SL 4000L
SL 4000LM

SMEC


# SL 4000L Series

## SL 4000L/LM

### Heavy duty and precision machining in a compact footprint with ease of use features

- 45 degree TORQUE TUBE RIB bed to support heavy duty machining
- High precision machining possible during heavy duty cutting
- Significantly reduced non-cutting time for high efficiency machining
- Servo turret for improved high speed performance
- Low center of gravity design minimizing vibration and thermal growth for high precision turning

| Category | | SL 4000AL \| BL | SL 4000ALM \| BLM |
|---|---|---|---|
| Swing over bed | mm(inch) | 770 (30.32) | 770 (30.32) |
| Max turning length | mm(inch) | 3,128 \| 3,087 (123.15 \| 121.54) | 3,084 \| 3,042 (121.42 \| 119.77) |
| Chuck size | inch | 12" \| 15" | 12" \| 15" |
| Spindle bore | mm(inch) | 115 \| 132 (4.53 \| 5.20) | 115 \| 132 (4.53 \| 5.20) |
| Spindle speed | rpm | 2,500 \| 2,000 | 2,500 \| 2,000 |
| Main Motor (cont./max) | kW(Hp) | 18.5/26 (24.81/34.87) | 18.5/26 (24.81/34.87) |
| Travels X | mm(inch) | 340 (13.39) | 340 (13.39) |
| Travels Z | mm(inch) | 3,170 (124.81) | 3,170 (124.81) |
| No of tool positions | EA | 12 | 12 (BMT75) |

### Superb spindle structure

The radiator fin head assembly to minimize thermal growth and Bzi sensor increases rotation accuracy for high quality machining

### Optimized feed system design

The pre-tensioned double anchored feed system and 6 contact surface x-axis slideway frame enables high precision and heavy duty cutting

### High rigidity design

The 45-degree slanted bed with torque tube ribbed structure supresses vibration during heavy duty cutting for high precision machining

### Operator centered convenience features

Operator convenience maximized with features such as M-CODE based programmable tailstock, Manual Guide i and operator centered panel

## Superb spindle design

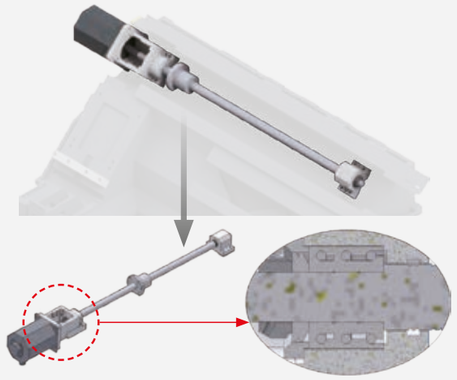
### Radiator fin head assembly to minimize thermal growth

The radiator fin like ribbed structure of the head assembly minimizes thermal growth for precision machining

### Reduced service issues with new spindle orientation sensor design

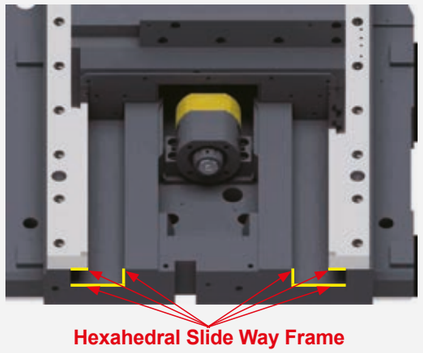
Spindle orientation sensor changed from position encoder to Bzi sensor, removing the need to adjust the timing belt and improving rotation accuracy and increasing productivity by removing a point of maintenance

## Optimized feed system design



### Pre-tensioned double anchored travel axis

All travel axes employ pre-tensioned double anchored ball screws to minimize thermal growth and are supported on both ends using high precision P4 angular bearings for high precision operation
- Pre-tensioned double anchored (minimize thermal growth)
- High precision angular bearing+large diameter high precision ball screws




### 6 contact surface slideway frame (X-aixs)

The wide guideway surfaces and contact surface slideways are heat treated and precision ground to maintain high precision, heavy duty cutting capability over its lifetime



## High rigidity design


### High rigidity 45-degree slant bed to support heavy-duty cutting

The 45-degree slant bed with torque tube rib structure offers superb twisting and bending resistance during heavy duty cutting, enabling high precision machining.
Also, the slant bed allows for easier access to the workpiece and superb chip discharge

### Easy chip removal

The 45-degree slant bed design allows for convenient chip removal and easy access for tool changes and inspections

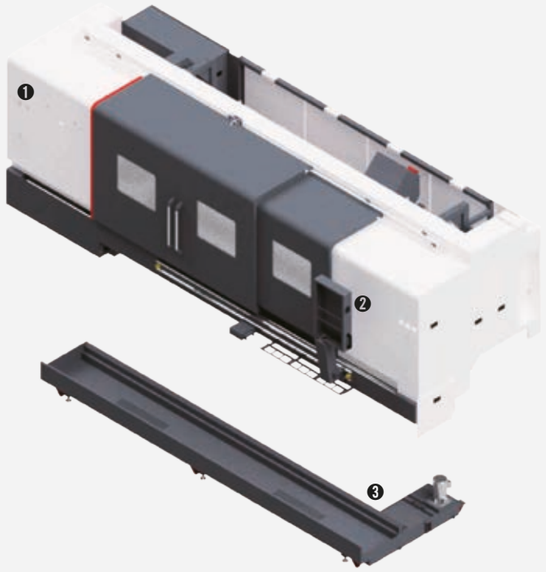
### Programmable tailstock (standard)

The programmable tailstock allows for the tailstock and the quill to be operated via M-CODE and maintains high precision during heavy-duty cutting

Tailstock Quill Stroke : 150mm (5.91 inch)

Tailstock Taper : MT5

## Ease of use




### ❶ Easy hydraulic valve adjustment

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

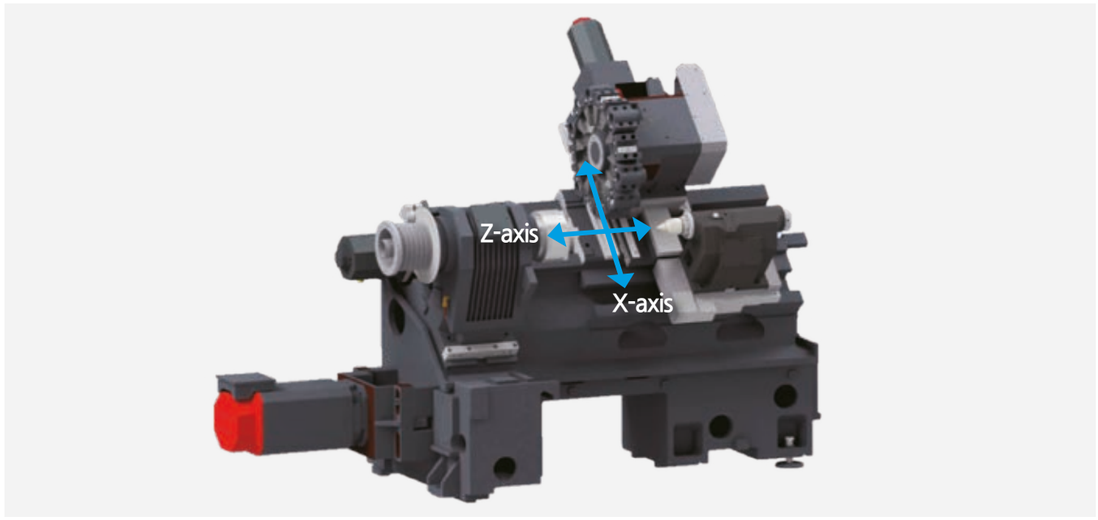
### ❷ User-centric 15" Large OP Panel

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

### ❸ Easy coolant tank maintenance

When cleaning the coolant tank, the coolant tank may be removed while leaving the chip conveyor attached to the machine, making it easier to clean and maintain

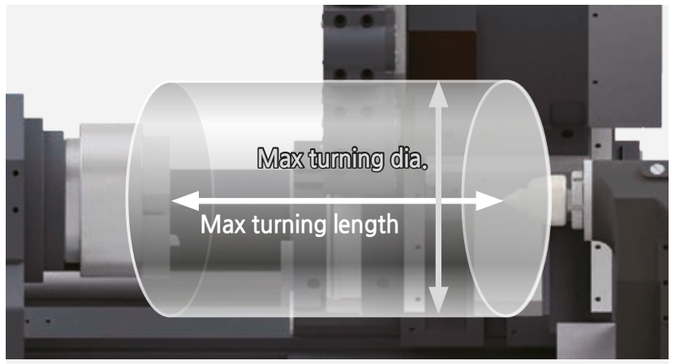
## Machine Design




| Model | Travel [mm(inch)] | | Rapid Traverse [m/min(ipm)] | |
|---|---|---|---|---|
| | X-axis | Z-axis | X-axis | Z-axis |
| SL 4000L | 340(13.39) | 3,170(124.81) | 16(629.93) | 20(787.41) |
| SL 4000LM | 340(13.39) | 3,170(124.81) | 16(629.93) | 20(787.41) |

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

## Work Range




| Model | Unit | Max turning dia. | Max turning length |
|---|---|---|---|
| SL 4000AL/BL | mm(inch) | Ø650(25.60) | 3,128/3,087(123.15/121.54) |
| SL 4000ALM/BLM | mm(inch) | Ø580(22.84) | 3,084/3,042(121.42/119.77) |

Providing a large work envelope, ensuring cost effective productivity

**SL 4000AL**

Max turning dia / length

Ø650/3,128mm

(25.60/123.15 inch)

**SL 4000ALM**

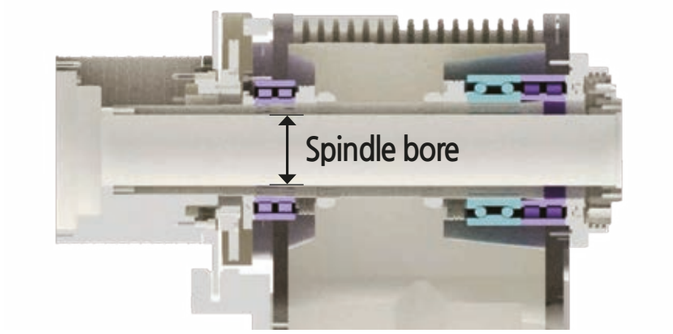
Max turning dia / length

Ø580/3,084mm

(22.84/121.42 inch)

## Spindle

| Model | Chuck size | Speed [rpm] | Power (Cont./Max) [kW(Hp)] | Torque (Cont./Max) [N·m(lbs.ft)] |
|---|---|---|---|---|
| SL 4000AL/ALM | 12" | 2,500 | 18.5/26(24.81/34.87) | 1,651/2,320 (1,217.72/1,711.15) |
| SL 4000BL/BLM | 15" | 2,000 | 18.5/26(24.81/34.87) | 1,651/2,320 (1,217.72/1,711.15) |




| Model | Spindle bore [mm(inch)] | Spindle nose (ASA) |
|---|---|---|
| SL 4000AL/ALM | Ø115(4.53) | A2-11 |
| SL 4000BL/BLM | Ø132(5.20) | A2-11 |

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

**SL 4000L Series**

Max speed (A/B Type)

2,500/2,000rpm

Power (cont/max)

18.5/26kW

(24.81/34.87 Hp)

Torque (cont/max)

1,651/2,320N·m

(1,217.72/1,711.15 lbs.ft)

**SL 4000L Series_Mill Motor**

Max speed

4,000rpm

Power (cont/max)

5.5/7.5kW

(7.38/10.06 Hp)

Torque (cont/max)

35/47.7N·m

(25.82/35.19 lbs.ft)

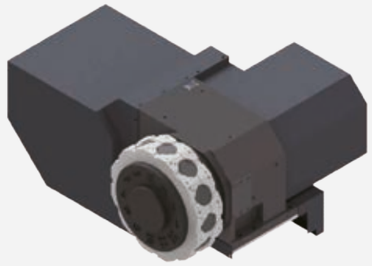
The Double Row of high precision Cylindrical Roller Bearings and Angular Ball Bearings on the spindle front end and the Double Row of Cylindrical Roller Bearings in the spindle rear ensures high speed, high precision turning

## Turret

### Servo turret

Turret indexing employs an internally developed method of Non Stop Random Index that uses a high powered Servo
Index Motor to allow 0.25 second single station turret indexing.
And the 3-piece Curvic Coupling significantly increases the clamping force and indexing accuracy

Turret indexing time : 0.25sec
No. of tool positions : 12ea (□32×32, Ø60)
(□1.26"×1.26", Ø2.37")



### BMT Milling Turret

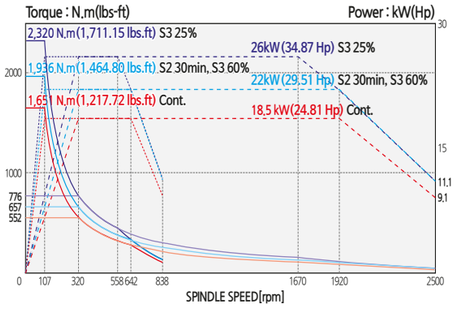
This 12 tool position (BMT75) turret with the largest in class curvic coupling and powerful hydraulic clamping force is capable of accepting a rotary tool in every tool position and allows a variety of machining operations with a single set-up
The best in class BMT75 tool holders ensure high rigidity, high precision machining and the non-stop turret indexing in either direction minimizes the turret index time down to 0.25 seconds per station.

Turret indexing time : 0.25sec
No. of tool positions : 12ea (□32×32, Ø60)
(□1.26"×1.26", Ø2.37")

## Power torque diagram

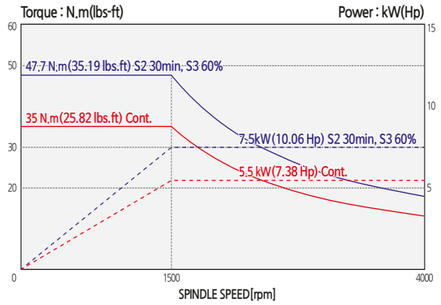
### SL 4000L

Max speed (A/B Type) : 2,500/2,000rpm
Power (cont/max) : 18.5/26kW(24.81/34.87 Hp)
Torque (cont/max) : 1,651/2,320N·m
(1,217.72/1,711.15 lbs.ft)




### SL 4000LM Milling Motor Torque Diagram

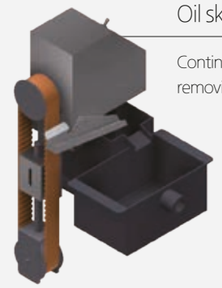
Max speed : 4,000rpm
Power (cont/15min) : 5.5/7.5kW(7.38/10.06 Hp)
Torque (cont/15min) : 35/47.7N·m
(25.82/35.19 lbs.ft)




## Accessories [Optional]

### Oil skimmer

Continously cleans the coolant by removing waste oils

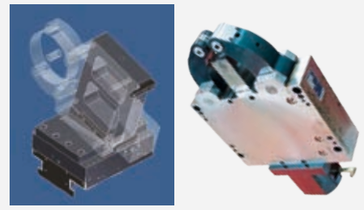


### Air blow

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



### Tool presetter

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

### Chip conveyor

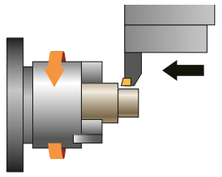
Used to discharge chips created during machining

## Cutting Performance

Test conditions : SL 4500ALM, S45C

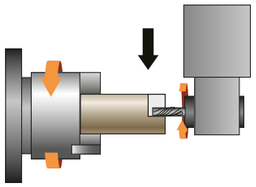
### ◆ O.D Cutting

| | | |
|---|---|---|
| Cutting dia. | mm(inch) | 327(1.29) |
| Cutting depth | mm(inch) | 9(0.36) |
| Cutting speed | m/min(ipm) | 132(5,196.86) |
| Spindle speed | rpm | 330 |
| Feedrate | mm/rev(inch/rev) | 0.4(0.016) |
| Chip removal rate | cc/min(oz/min) | 1,296(43.83) |



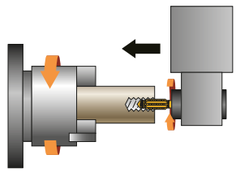
### ◆ Endmill

| | | |
|---|---|---|
| Endmill dia. | mm(inch) | 25(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) | 126(4.27) |



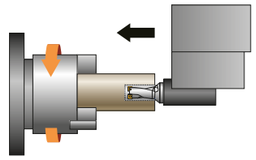
### ◆ Tap

| | | |
|---|---|---|
| Tap size | mm | M24 |
| Cutting depth | mm(inch) | 45(1.78) |
| Cutting speed | m/min(ipm) | 20(787.41) |
| Spindle speed | rpm | 265 |
| Feedrate | mm/rev(inch/rev) | 3(0.12) |



### ◆ U-Drill Cutting

| | | |
|---|---|---|
| U-drill dia. | mm(inch) | Ø63(2.49) |
| Cutting speed | m/min(ipm) | 200(7,874.02) |
| Spindle speed | rpm | 1,011 |
| Feedrate | mm/rev(inch/rev) | 0.34(0.014) |
| Chip removal rate | cc/min(oz/min) | 1,070(36.19) |



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

## SMEC FANUC i series

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

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

CUSTOM ◀ **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


### PMC alarm check function

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


### 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


### Counter for each T-Code



## Manual Guide i (STD)

SMEC'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


Check cutting path 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

### 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

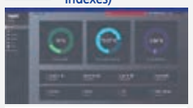
## IoT Solution (OPT)


### 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

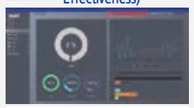
### KPI (Key Performance Indexes)



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

### OEE (Overall Equipment Effectiveness)



Provides figures and graphs of overall equipment effectiveness

- Availability, performance, quality, etc.

### Realtime Monitoring

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

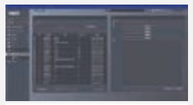
- Provides information about the operation status, speed, production alarms, etc. of each machine

### Remote Control/ Management

Remote control and operation

- Emergency stop switch, program editing, etc.

### Remote A/S



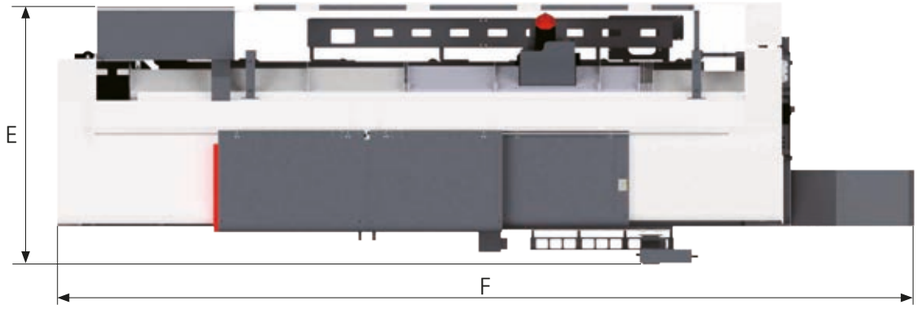
Problem diagnosis via remote control

- Provide remote diagnosis services to users via the IIoT solution

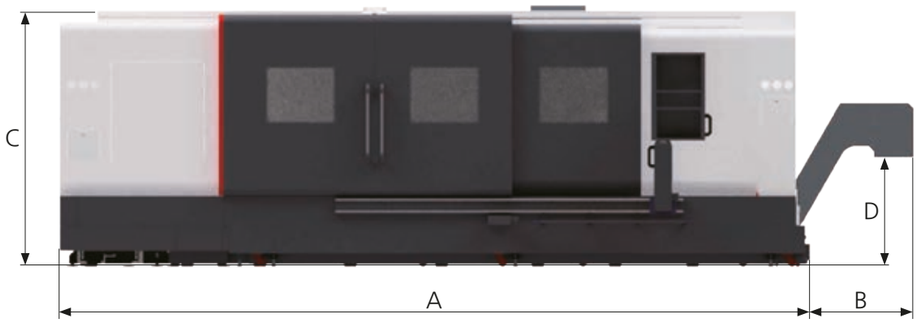
## Machine Dimensions

Unit : mm(inch)

### Top view




### Front view



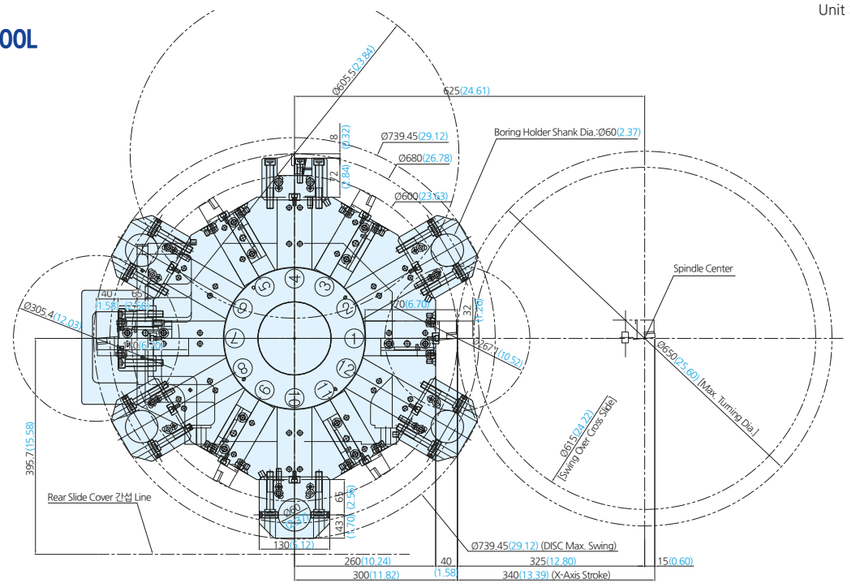

| Model | A (Machine Length) | B | C (Machine Height) | D | E (Machine Width) | F |
|---|---|---|---|---|---|---|
| SL 4000L | 6,360(250.04) | 1,011(39.81) | 2,212(87.09) | 860(33.86) | 2,267(89.26) | 7,371(290.20) |
| SL 4000LM | 6,360(250.04) | 1,011(39.81) | 2,212(87.09) | 860(33.86) | 2,267(89.26) | 7,371(290.20) |



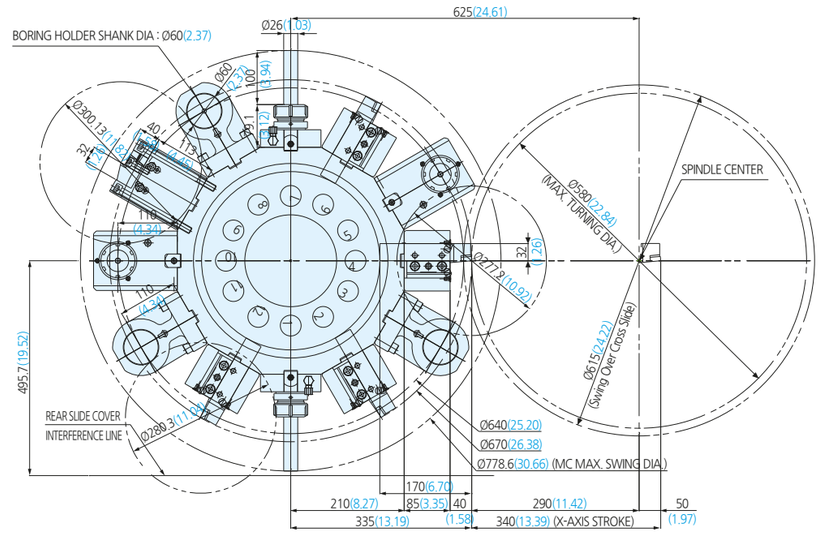
## Turret Interference

Unit : mm(inch)

### SL 4000L



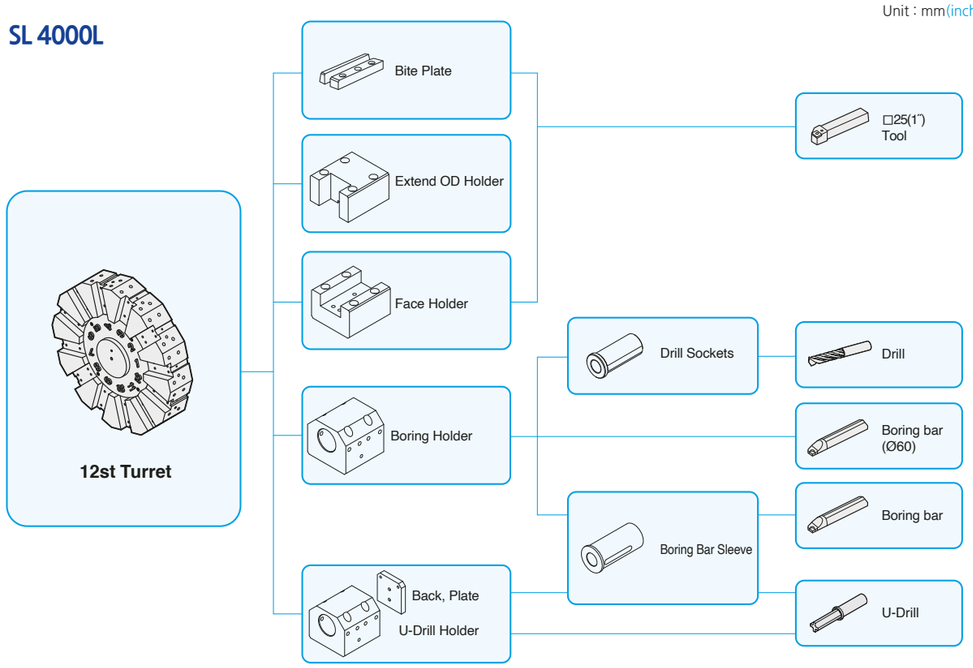

### SL 4000LM



## Tooling System

Unit : mm(inch)

### SL 4000L




### Standard Tooling

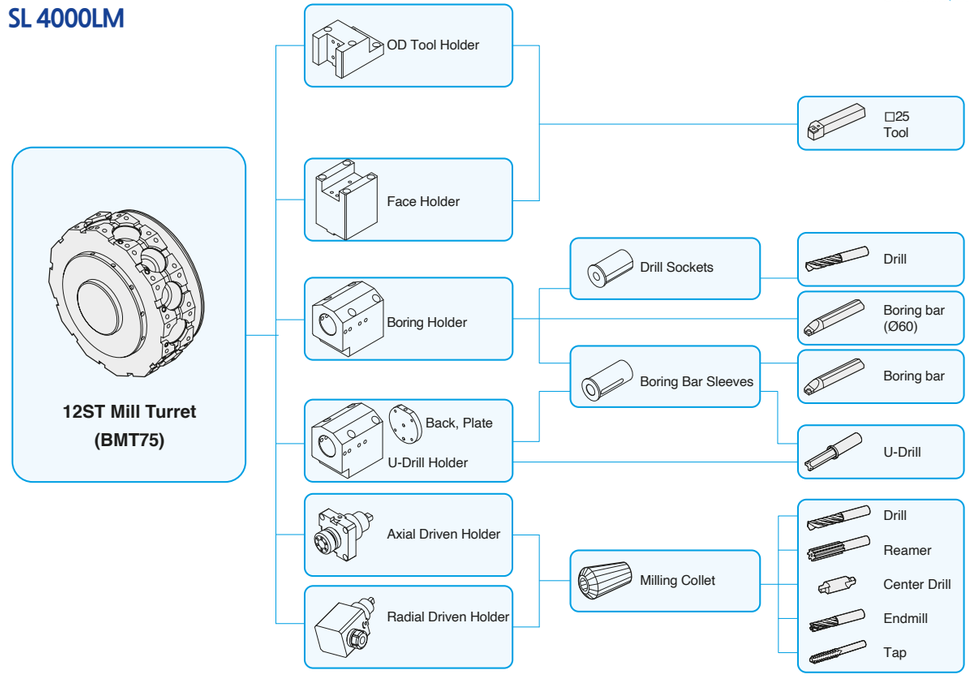
| Item / Description | | | SL 4000L |
|---|---|---|---|
| Turning Holder | OD HOLDER | - | 1 |
| | Facing Holder | - | 1 |
| Boring Holder | BORING HOLDER | - | 3 |
| | U-Drill Holder | - | 2 |
| Driven Holder | AXIAL DRIVEN HOLDER | - | - |
| | RADIAL DRIVEN HOLDER | - | - |
| Socket | Boring | Ø12 (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 | MT 2 | 1 |
| | | MT 3 | 1 |
| | | MT 4 | 1 |
| | | MT 5 | 1 |



## Tooling System

Unit : mm(inch)

### SL 4000LM




### Standard Tooling

| Item / Description | | | SL 4000LM |
|---|---|---|---|
| Turning Holder | OD HOLDER | - | 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 | MT 2 | 1 |
| | | MT 3 | 1 |
| | | MT 4 | 1 |
| | | MT 5 | 1 |

# SL 4000L Series

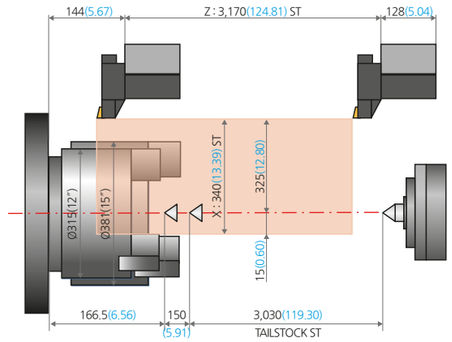
HORIZONTAL TURNING CENTER

## Work Range

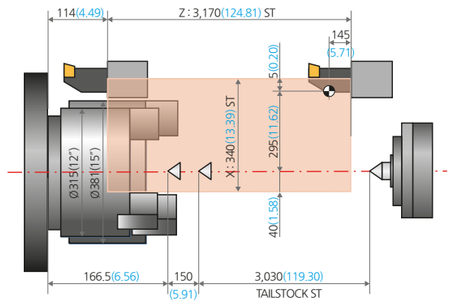
Unit : mm(inch)

### SL 4000L

O.D Tool

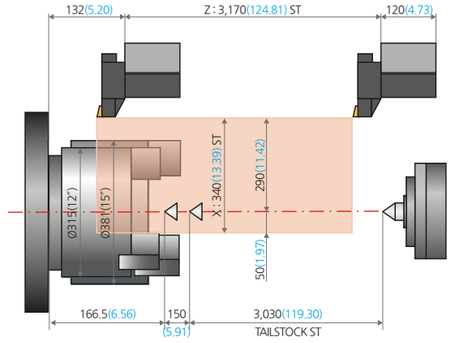



I.D Tool

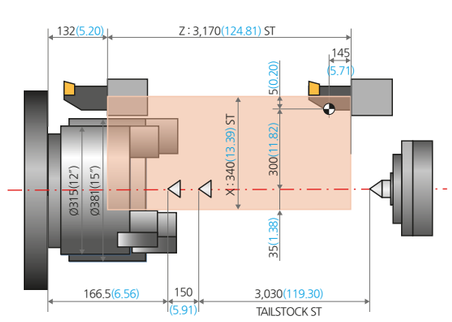



### SL 4000LM

O.D Tool




I.D Tool






## Standard / Optional

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

| Category | | | SL 4000L Series | SL 4000M series |
|---|---|---|---|---|
| Spindle | 3 jaw open-center chuck | | ● | ● |
| | Soft jaw (3set) | | ● | ● |
| | Hard jaw (1set) | | ○ | ○ |
| | Chuck clamp footswitch | | ● | ● |
| | Dual pressure chucking | | ○ | ○ |
| | C-axis control (0.001°) | | X | ● |
| | Chuck clamp confirmation | | ● | ● |
| | Chuck dual footswitch | | ○ | ○ |
| Turret | Tool holder | | ● | ● |
| | Rotary holder type | BMT | X | ● |
| | Rotary holder (axial) | | X | ● |
| | Rotary holder (radial) | | X | ● |
| | Boring bar sleeve (same as U-drill holder sleeve) | | ● | ● |
| | Drill socket | | ● | ● |
| | U-drill holder | | ● | ● |
| Tailstock | Programmable tailstock | | ● | ● |
| | Quill forward/reverse confirmation | | ○ | ○ |
| | Tailstock footswitch | | ○ | ○ |
| Coolant & Air Blow | Coolant above chuck | | ○ | ○ |
| | Coolant gun | | ○ | ○ |
| | Air blower (above chuck) | | ○ | ○ |
| | Rotary tool holder TSC | | ○ | ○ |
| | Air gun | | ○ | ○ |
| | Coolant pump | 4.5Bar | ● | ● |
| | | 7Bar | ○ | ○ |
| | | 10Bar | ○ | ○ |
| | | 14.5Bar | ○ | ○ |
| | | 20Bar | ○ | ○ |
| | Coolant chiller | | ○ | ○ |

| Category | | | SL 4000L Series | SL 4000M series |
|---|---|---|---|---|
| Chip Disposal | Chip conveyor (Hinge / Scaper) | Side | ○ | ○ |
| | | Rear | X | X |
| | Special chip conveyor (drum filter) | | △ | △ |
| | Chip bucket | Fixed 380L | ○ | ○ |
| | | Rotate 275L | ○ | ○ |
| Electrical | 3 step patrol lamp and buzzer | | ● | ● |
| | Lamp for electrical cabinet | | X | X |
| | Remote MPG | | X | X |
| | Work counter | Digital | △ | △ |
| | Total counter | Digital | △ | △ |
| | Tool counter | Digital | △ | △ |
| | Multi counter | 6EA | △ | △ |
| | | 9EA | △ | △ |
| | Grounded circuit breaker | | △ | △ |
| | AVR(Auto Voltage Regulator) | | X | X |
| | Transformer | | ○ | ○ |
| | Auto Power Off | | ○ | ○ |
| Measurement | Tool Presetter | Manual | ○ | ○ |
| | Tool Presetter | Auto | ○ | ○ |
| | Linear scale | X-axis | ○ | ○ |
| | | Z-axis | ○ | ○ |
| | Coolant level gauge (requires chip conveyor) | | ○ | ○ |
| Environmental | Air conditioner for electrical cabinet | | ○ | ○ |
| | Dehumidifier | | △ | △ |
| | Oil mist collector | | ○ | ○ |
| | Oil skimmer | | ○ | ○ |
| Automation | Auto door | | ○ | ○ |
| | Sub controller | | △ | △ |
| | Barfeeder interface | | △ | △ |
| | Additional M-codes (4 pairs) | | △ | △ |
| | Automation interface | | △ | △ |
| | I/O expansion (including both IN and OUT) | 16 contacts | △ | △ |
| | | 32 contacts | △ | △ |

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

# SL 4000L Series

HORIZONTAL TURNING CENTER

## Machine Specifications

[ ] : Option

| DESCRIPTION | | | SL 4000L | | SL 4000LM | |
|---|---|---|---|---|---|---|
| | | | A type | B type | A type | B type |
| Chuck | Chuck size | inch | 12"[15"] | 15"[18"] | 12"[15"] | 15"[18"] |
| Capacity | Swing over bed | mm(inch) | 770(30.32) | 770(30.32) | 770(30.32) | 770(30.32) |
| | Swing over cross-slide | mm(inch) | 615(24.22) | 615(24.22) | 615(24.22) | 615(24.22) |
| | Max turning diameter | mm(inch) | 650(25.60) | 650(25.60) | 580(22.84) | 580(22.84) |
| | Max turning length | mm(inch) | 3,128(123.15) | 3,087(121.54) | 3,084(121.42) | 3,042(119.77) |
| Spindle | Spindle speed | rpm | 2,500 | 2,000 | 2,500 | 2,000 |
| | Spindle nose | ASA | A2-11 | A2-11 | A2-11 | A2-11 |
| | Draw tube ID | mm(inch) | 103(4.06) | 117.5(4.63) | 103(4.06) | 117.5(4.63) |
| | Spindle bore | mm(inch) | 115(4.53) | 132(5.20) | 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) | 18.5/26(24.81/34.87) |
| Travels | X-axis stroke | mm(inch) | 340(13.39) | 340(13.39) | 340(13.39) | 340(13.39) |
| | Z-axis stroke | mm(inch) | 3,170(124.81) | 3,170(124.81) | 3,170(124.81) | 3,170(124.81) |
| | X-axis rapid traverse | m/min(ipm) | 16(629.93) | 16(629.93) | 16(629.93) | 16(629.93) |
| | Z-axis rapid traverse | m/min(ipm) | 20(787.41) | 20(787.41) | 20(787.41) | 20(787.41) |
| Turret | No of tool positions | ea | 12 | 12 | 12(BMT 75) | 12(BMT 75) |
| | OD tool size | mm(inch) | 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) |
| | Indexing time | sec | 0.25 | 0.25 | 0.25 | 0.25 |
| | Rotary tool speed | rpm | - | - | 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) |
| | Quill stroke | mm(inch) | 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) |
| Machine | Size (with SIDE chip conveyor) LxWxH | mm(inch) | 6,360(7,371)×2,267×2,212 (250.04(290.02)×89.26×87.09) | | 6,360(7,371)×2,267×2,212 (250.04(290.02)×89.26×87.09) | |
| | Size (with REAR chip conveyor) LxWxH | mm(inch) | - | | - | |
| | Weight | kg(lb) | 11,500(25,353.17) | 11,500(25,353.17) | 11,600(25,573.63) | 11,600(25,573.63) |
| | Coolant tank capacity | Liter(gal) | 313(82.69) | 313(82.69) | 313(82.69) | 313(82.69) |
| Electric power supply | | kVA/V | 50/220 | 50/220 | 50/220 | 50/220 |
| Controller | | | FANUC 0i-TF+ | | | |

※ Design and specifications are subject to change without notice.



## NC Specification / FANUC

● : STD ○ : Optional X : N/A

| Functions | | 0*i*-TF+ |
|---|---|---|
| Controlled axis | Controlled axes | X, Z, Y, C |
| | Max simultaneously controlled axes | 4 |
| | Least input increment | 0.001mm / 0.0001" |
| | Built-in stroke limit | Soft overtravel 1, 2, 3, 4 |
| | Machine lock | ● |
| Operation functions | Manual handle feed | X1, X10, X100 |
| | Dry run | ● |
| | Single block | ● |
| | Feed per minute | G94 |
| | Feed per revolution | G95 |
| | DNC operation | Ethernet, CF card |
| | Thread cutting pause | ○ |
| Interpolation functions | Linear interpolation | G01 |
| | Circular interpolation | G02, G03 |
| | Dwell | G04 |
| | Cylindrical interpolation | G70.1 |
| | Skip | G31 |
| | Nano smoothing | X |
| | Polar coordinate interpolation | ● |
| | Reference position (zero) return | G28 |
| | Reference position (zero) return check | G27 |
| | 2nd, 3rd, 4th reference point return | G30 |
| | Variable lead thread cutting | ● |
| | Thread repair | ● |
| Feed function | Rapid traverse override | F0, 25%, 50%, 100% |
| | Feedrate override | 0~200% |
| | Jog override | ● |
| | AI look ahead | X |
| | AI contour control II | ○ (200 block) |
| Spindle function | Spindle orientation | ● |
| | Rigid tapping | M29 |
| | Spindle override | S0 ~ 150% |
| | Arbitrary speed threading | ○ |
| Tool functions | Tool number command | T4-Digt Tool number |
| | Tool nose radius compensation | G40 ~ G42 |
| | Tool offset pairs | 128-pairs |
| | Tool geometry / wear offset | ● |
| | Tool length compensation | ● |
| | Tool life management | ● |
| | Tool path graphic display | ● |

| Functions | | 0*i*-TF+ |
|---|---|---|
| Program input | Absolute / incremental command | G90/G91 |
| | Repeating canned cycle | ● |
| | Repeating canned cycle 2 | ● |
| | Canned cycles | ● |
| | Drilling canned cycle | ● |
| | Decimal point input | ● |
| | Inch / metric conversion | G20 / G21 |
| | Program restart | ● |
| | Sub program call | ● |
| | Max programmable value | ±99999.999mm/± 9999.9999" |
| | M function | 3 digit |
| | Custom macro | ● |
| | Addition of custom macro common variables | #100~#199, #500~#999 |
| | Direct drawing dimension programming | ● |
| | Programmable data input | G10 |
| | Tape code | ISO / EIA |
| | Optional block skip | ● |
| | Workpiece coordinate system | G52 ~ G59 |
| | Addition of workpiece coordinate system | X |
| Interface function | Embedded ethernet | ● |
| | Fast ethernet | X |
| Setting and display | Alarm and operator history display | ● |
| | Run hour and parts count display | ● |
| | Loadmeter display | ● |
| | Self diagnosis function | ● |
| | Extended part program editing | ● |
| | Machining condition selection function | ○ |
| | Machining quality level adjustment | X |
| | Display screen | 15" color LCD |
| | Multi-language display | 25 language |
| Data input/ output | Fast data server | X |
| | RS232C interface | ● |
| | Memory card input / output | ● |
| | USB memory input / output | ● |
| Editing operation | Part program storage size | 512Kbyte(2Mbyte) |
| | Number of registered programs | 400(1,000) EA |
| | Manual guide 0i | ○ |
| | Manual guide i | ● |


FANUC

WSF

# Fanuc Manual Guide i

## Erstellen Sie Ihre Teileprogramme in nur wenigen Schritten

Reduzieren Sie den Zeitaufwand bei der Überführung Ihrer Zeichnungen in die Produktion:
Mit dem FANUC MANUAL GUIDE i lassen sich sowohl einfache als auch hoch komplizierte Maschinenzyklen inklusive Dreh-, Fräs-, Bohr- und Messzyklen schnell und einfach umsetzen. Dabei unterstützt die Software Sie durch intuitive interaktive Benutzerführung sowie spezielle Funktionen zur einfachen Teileprogrammierung und Simulation.

Merkmale:

- Bedienerfreundliche Programmierumgebung
- Erweiterte Zyklusbearbeitung (Drehen und Schleifen)
- Leistungsstarke Profilberechnung
- Nahtloser Umgebungswechsel
- Werkzeugverwaltungsfunktion
- Messzyklen
- Restschnitt
- Bearbeitungssimulationen

Die benutzerfreundliche Software MANUAL GUIDE i zur Fertigungsprogrammierung vereinfacht den Betrieb Ihrer Maschine. Die innovative Programmierung ermöglicht die Entwicklung von der Zeichnung zum Werkstück in kürzester Zeit. Dank MANUAL GUIDE i die CNC-Maschinen von FANUC schnell und einfach für Dreh-, Schleif- und Verbundbearbeitungsprozesse programmiert werden.

Selbsterklärende Menüs und grafische Simulationen führen den Benutzer durch die Programmierung, was selbst bei komplexen Bearbeitungsvorgängen zu hocheffizienten Ergebnissen führt.


# Siemens Sinumerik 828D

## Mehr Produktivität mit SINUMERIK 828D – Smart Operation

## Robuste MultiTouch-Bedienung kombiniert mit SideScreen

Für Werkstatt, Lohnfertigung und Großserienfertigung sind hochproduktive Automatisierungslösungen gefragt, die den Weg in die Digitalisierung begleiten.

Ob Einzelteil- oder Massenfertigung, einfache oder komplexe Werkstücke – die SINUMERIK CNC-Lösungen bieten Werkzeugmaschinenbetreibern immer die passende Lösung für ihre Anforderungen.

Durch die tägliche Nutzung von mobilen Geräten wie Smartphones, Tablets oder Computern haben wir eine bestimmte Art der Interaktion mit Maschinen entwickelt. Werkzeugmaschinen bilden hier keine Ausnahme mehr.

- Der Trend zu größeren Bildschirmen eröffnet die Möglichkeit, zusätzliche anpassbare Fenster in das HMI einzubinden.
- Änderung des Bildseitenverhältnis von 4:3 in 16:9.
- Zugleich stehen Lösungen bereit, mit denen die Benutzeroberfläche individuell an die Anforderungen der Kunden angepasst werden kann.
- So kann der Maschinenbediener wesentlich mehr Informationen parallel betrachten.

Gleich einspeichern und
**ANGEBOT** sichern!

Tel. 49 (0) 9672 92415-730


Ihr Partner in
**Deutschland**
**& Österreich**

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