

## SY2-42E DIRECT DRIVE

### SWISS-TYPE CNC LATHES

- Solve your bar machining problem.
- + Removable Rotary Guide Bush
  - + Y2 Axis for Back Machining



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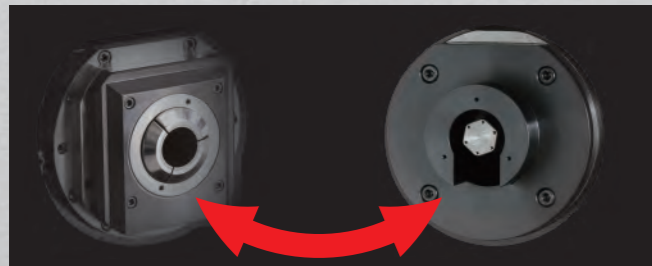
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# Best Machining Performance!

Enhanced roundness and accuracy are achieved, as there are no gears or belts causing vibrations.

- + Removable Rotary Guide Bush
- + Multi-Function Tooling System
- + Y2-Axis Sub Spindle Tooling System



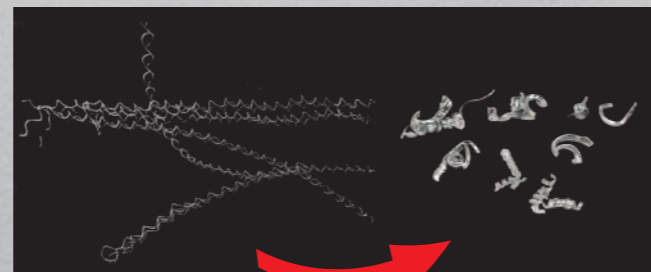
Rotary Guide Bush    Without Rotary Guide Bush

## Removable Rotary Guide Bush

You can select between guide bush or without guide bush, to find the most suitable way to process the long or short workpiece.

## Powerful Chip Breaking Functionality

Chip Breaking functionality solves the problem of chips entangling around the cutting tool and workpiece, reducing the need for tool retraction to clear chips significantly, thus enhancing machining efficiency.



Without Chip Breaking    With Chip Breaking

## Applications

- + Automotive, motorcycle and bicycle parts
- + Electronic and electrical parts
- + Instrument parts
- + Pneumatic and hydraulic parts
- + Sanitary and toilet wares
- + Hardware accessories



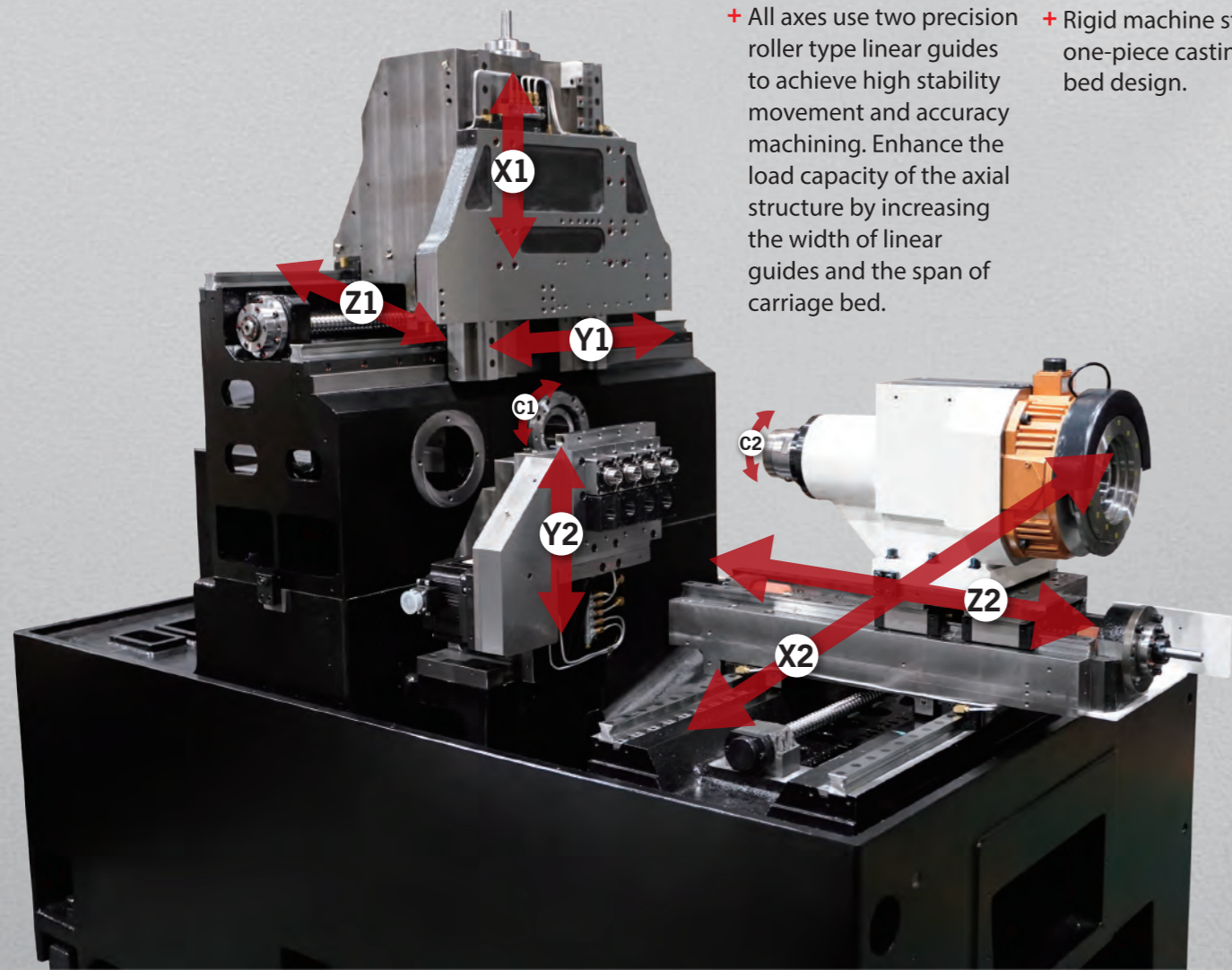
## Make Complicated Parts

## Machining In One Operation

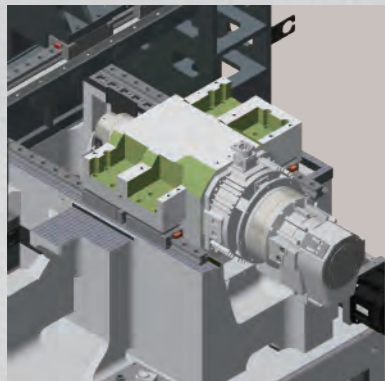
This machine offers the flexibility to operate with or without a guide bush, allowing for optimal machining conditions. The multiple tooling system enhances machining flexibility, enabling milling, drilling, and tapping both at the front and rear, thereby facilitating highly efficient parts processing in a single cycle.

# High Stability Construction

Accuracy of machine changes significantly when the heat generated, through the overall enhanced structure, it can still maintain cutting accuracy.



- + All axes use two precision roller type linear guides to achieve high stability movement and accuracy machining. Enhance the load capacity of the axial structure by increasing the width of linear guides and the span of carriage bed.
- + Rigid machine structure, one-piece casting flat bed design.

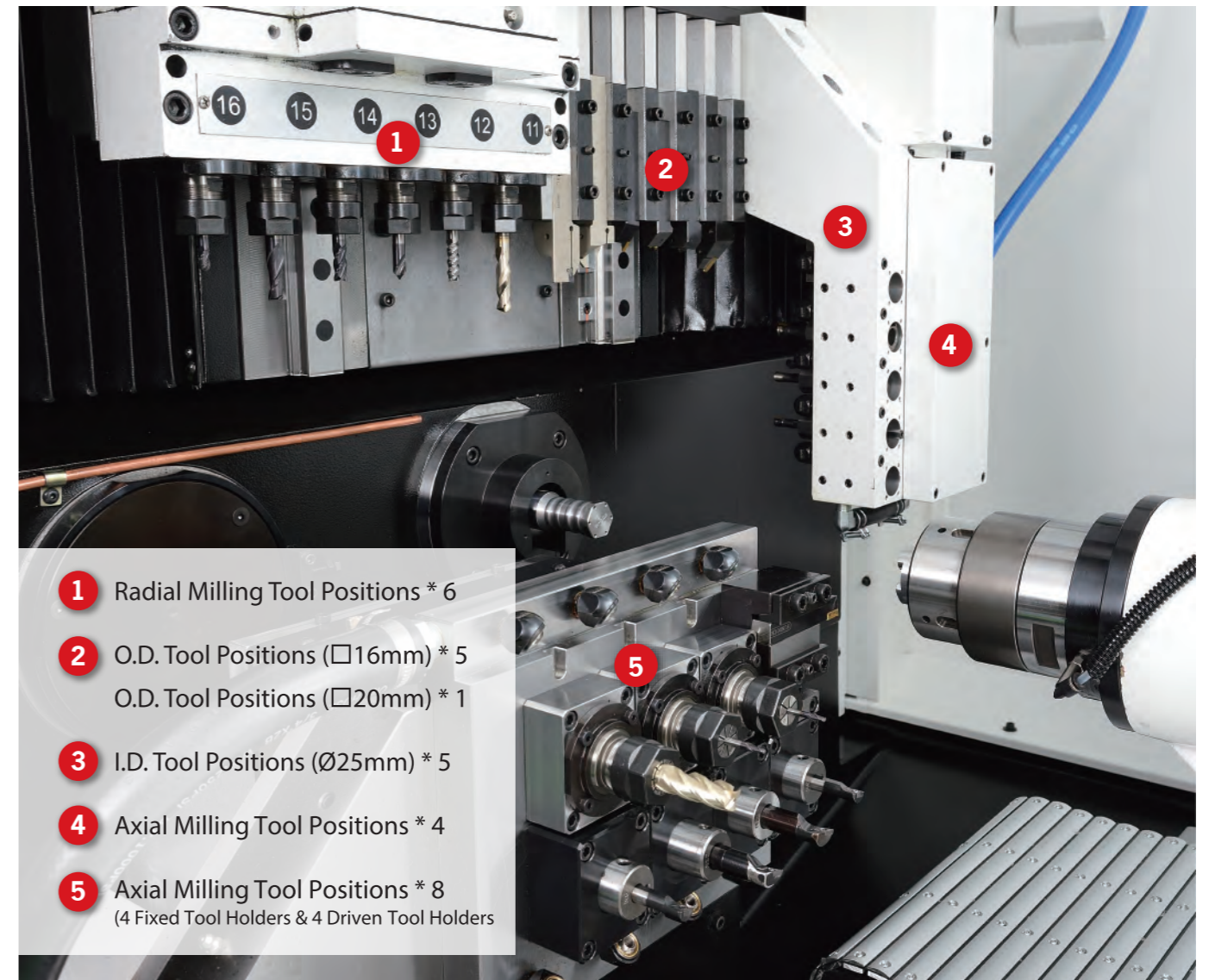


**DIRECT DRIVE** spindle, reducing machining vibrations and significantly improving stability.

- + Spindle maximum bar capacity is  $\varnothing 42\text{mm}$ , spindle speed up to 6,000 rpm, driven by a 11 kw servo motor to provide the bigger power and higher torque.
- + The SY2-42E can provide the same machining capacity on main and sub spindles.

# Multi-Functional Tooling System The Front Side Tooling System

Front side tooling system provides multiple turning and milling tool positions. You can install different types of tools in one setup, reduce tool change times so you can quickly and easily complete a variety of front side processing.



- 1 Radial Milling Tool Positions \* 6
- 2 O.D. Tool Positions ( $\square 16\text{mm}$ ) \* 5  
O.D. Tool Positions ( $\square 20\text{mm}$ ) \* 1
- 3 I.D. Tool Positions ( $\varnothing 25\text{mm}$ ) \* 5
- 4 Axial Milling Tool Positions \* 4
- 5 Axial Milling Tool Positions \* 8  
(4 Fixed Tool Holders & 4 Driven Tool Holders)

# Sub Spindle Tooling System

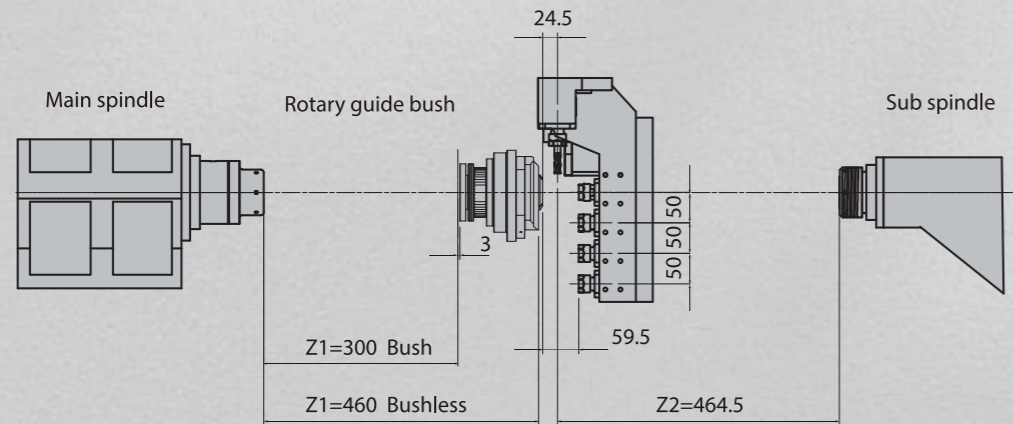
Sub spindle tooling system may be fitted with up to 8 ER-20 live tools, combines with the Y2 linear axis and C2 rotating axis to perform the more complex turning and milling process.

According to machining requirement, sub spindle tooling system can exchange with 4 O.D. tool holder.

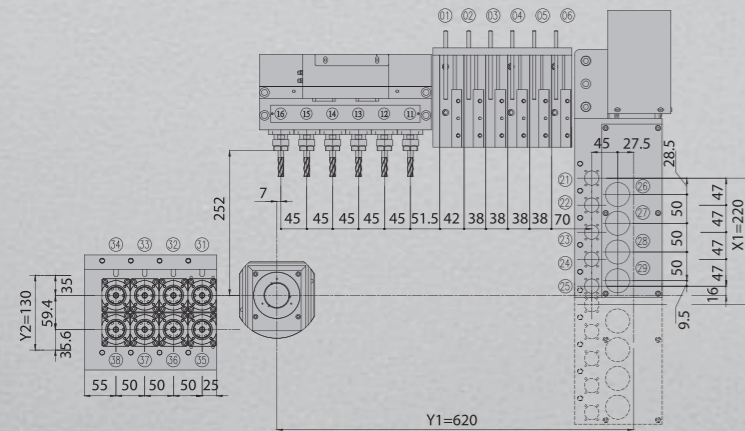
- + Live tooling is driven by a 2.2 kw servo motor.
- + Maximum live tooling speed is 6,000 rpm.

## Interference Diagram

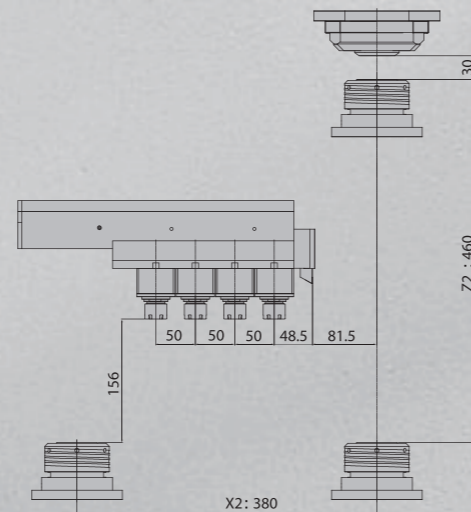
### + View A



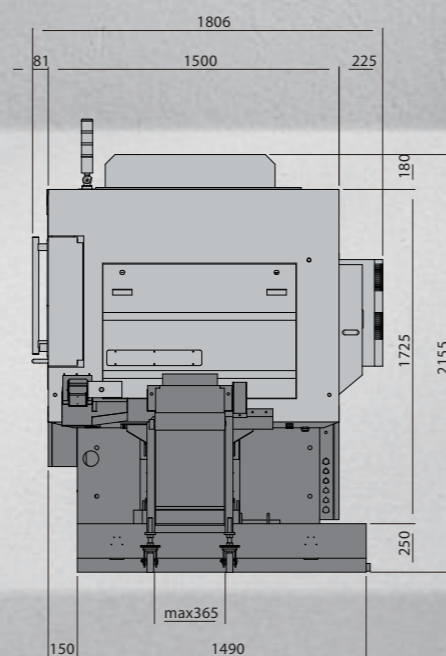
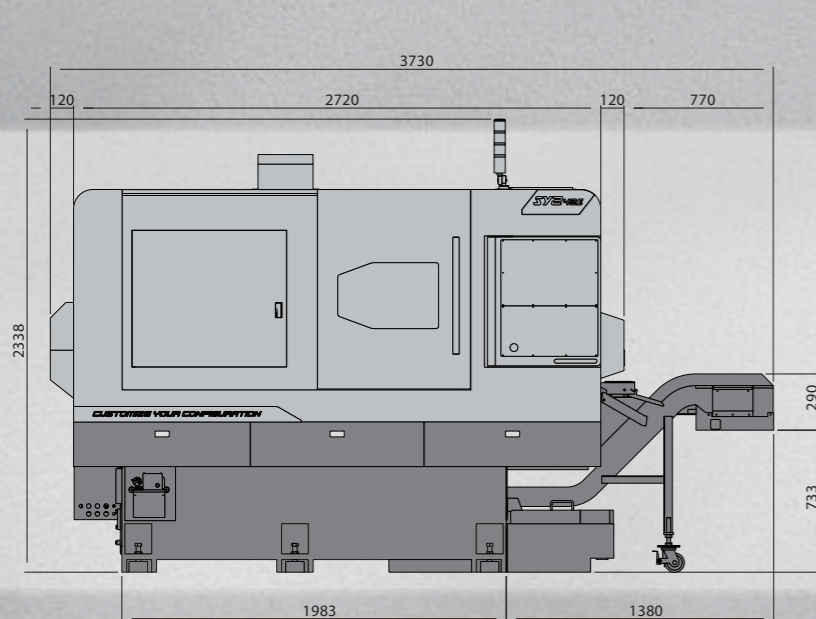
### + View B



### + View C



## Machine Dimensions



Unit: mm

## Machine Specifications

SY2-42E

Controller	
Capacity	Syntec   Mitsubishi
Max. cutting dia.	Ø42 mm (Bush & Bushless)
Max. cutting length per chuck	320 / 110 mm (Bush / Bushless)
Axes Specification	
X1/Y1-axes travel	220 / 620 mm
Z1-axis travel	320 / 460 mm (Bush / Bushless)
X1/Y1/Z1-axes servo motor	1.5kw / 1.5kw / S:1.0kw, M:1.5kw
X2/Y2/Z2-axes travel	380 / 130 / 460 mm
X2/Y2/Z2-axes servo motor	1.0kw / 0.75kw / 1.0kw
X1/X2/Y1/Z1/Z2-axes rapid traverse	30 m/min
Y2-axis rapid traverse	5 m/min
Min. input unit	0.001 mm
Spindle	
Max. bar feeding dia.	Ø42 mm
Spindle servo motor	11kw
Max. spindle speed	6000 rpm
Collet of spindle	TRB-42
C-axis index positioning	0.001°
No. of O.D. tool	6 pcs
O.D. tool size	□ 20 mm *1 + □ 16 mm *5
No. of I.D. tool	5 pcs
I.D. tool size	Ø25 mm
Spindle center height	1100 mm
Sub Spindle	
Max. bar feeding dia.	Ø42 mm
Sub spindle servo motor	11kw
Max. sub spindle speed	6000 rpm
Collet of sub spindle	TRB-42
C-axis index positioning	0.001°
I.D. tool size	Ø25 mm
Spindle Live Tooling	
No. of radial live tooling	6 pcs
Radial live tooling size	ER-20
Radial live tooling servo motor	1.5 kw
Max. radial live tooling speed	6000 rpm
No. of axial live tooling	4 pcs
Axial live tooling size	ER-20
Axial live tooling servo motor	1.0kw   1.5kw
Max. axial live tooling speed	6000 rpm
Sub Spindle Live Tooling	
No. of tool positions	8 pcs
Axial live tooling size	ER-20
Axial live tooling servo motor	2.2kw
Max. axial live tooling speed	6000 rpm
Hydraulic & Coolant Motor	
Hydraulic motor	1 HP/0.75kw
Spindle upper flush pump	1 HP/0.75 kw
Tool coolant pump	1 HP/0.75 kw
Tank Capacity	
Hydraulic tank	46 L
Coolant tank	280 L
Machine Specification	
Voltage stabilizer / transformer	220 V/30 KVA
Machine size (LxWxH) (includes chip conveyor)	3730 x 1806 x 2155 mm
Machine N.W. (includes chip conveyor)	6300 kg

※ Design and specs subject to change without notice.☒

## Standard Accessories

- + Tool Kit & Box
- + Rotary Guide Bush
- + Main Spindle - Radial Live Tooling Device
- + Main Spindle - Axial Live Tooling Device
- + Sub Spindle - Fixed Tool Holders x 4
- + Sub Spindle - Driven Tool Holders x 4
- + Air Conditioner for Electrical Cabinet
- + Auto Bar Feeder Interface
- + Auto Power Breaker
- + Front Door Interlock
- + Sub Spindle Air Through & Parts Ejector
- + Finished Parts Catcher & Conveyor
- + Main & Sub Spindle External Air Blowing Device
- + Main & Sub Spindle Hydraulic Clamping System
- + Cutting Fluid Pump
- + Cutting Fluid flowenser
- + Steel Belt Chip Conveyor & Cart

## Optional Accessories

- + CE Marking
- + Oil Mist Extractor
- + Voltage Stabilizer/Transformer
- + Auto Bar Feeder
- + Screw Type Chip Conveyor & Cart
- + 70 Bar High Pressure Coolant Through Device with Cutting Liquid Cooling