

SY2-42E DIRECT DRIVE

SWISS-TYPE CNC LATHES

Solve your bar machining problem.

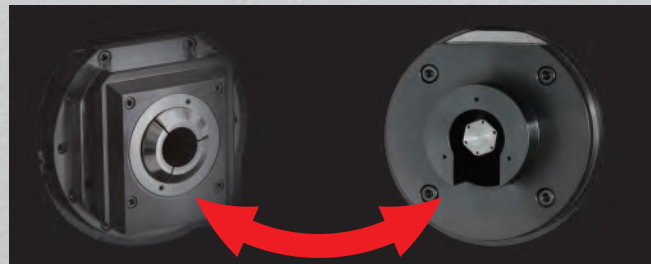
- + Removable Rotary Guide Bush
- + Y2 Axis for Back Machining



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



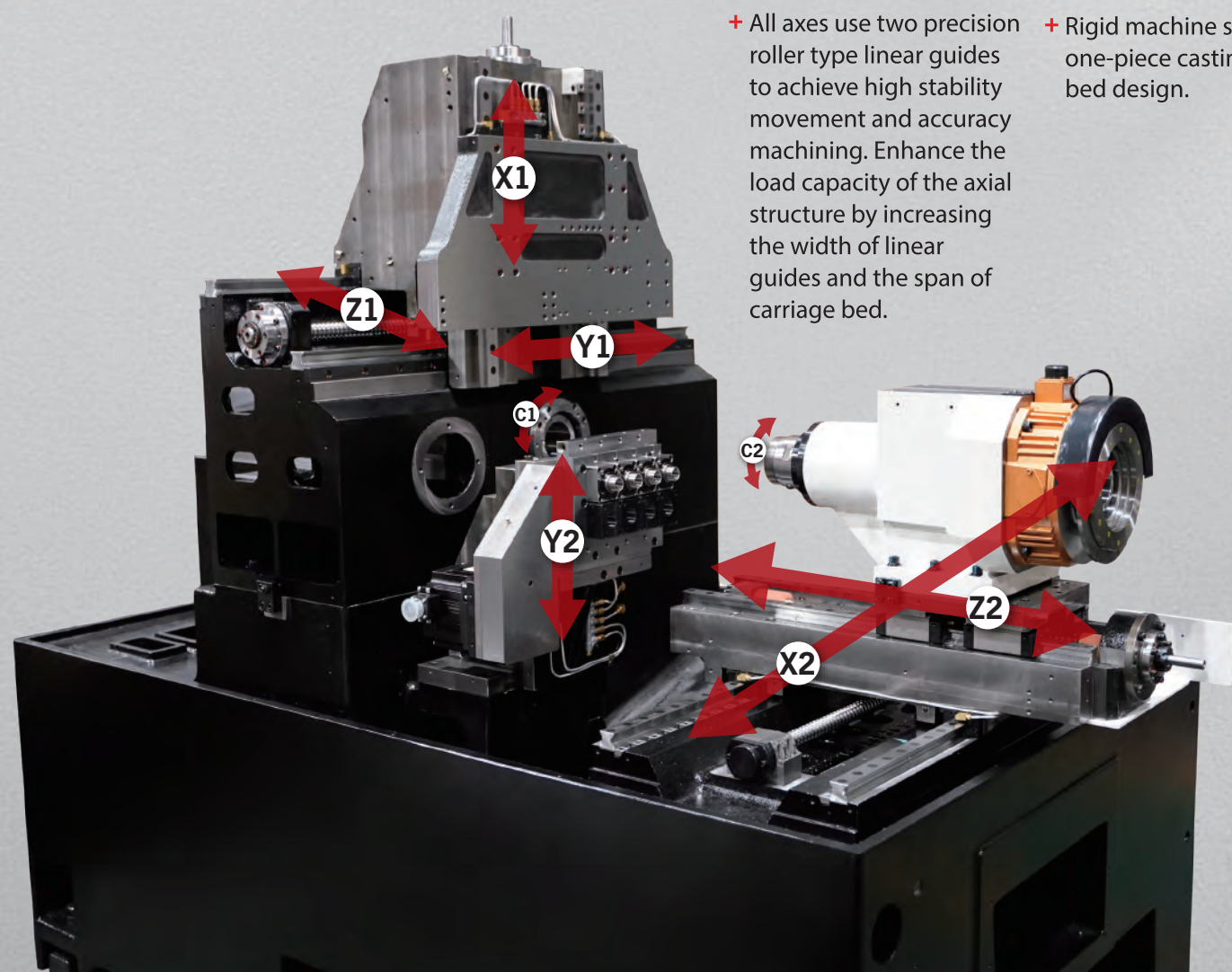
Make Complicated Parts

Machining In One Operation

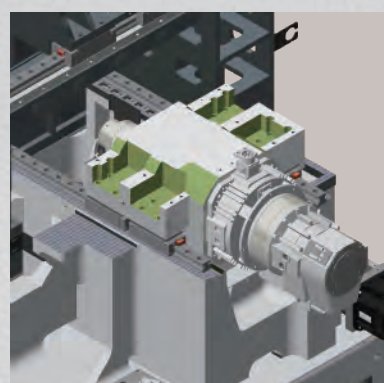
This machine offers the flexibility to operate with or without a guide bush, allowing for optimal machining conditions. The multiple tooling system enhances machining flexibility, enabling milling, drilling, and tapping both at the front and rear, thereby facilitating highly efficient parts processing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



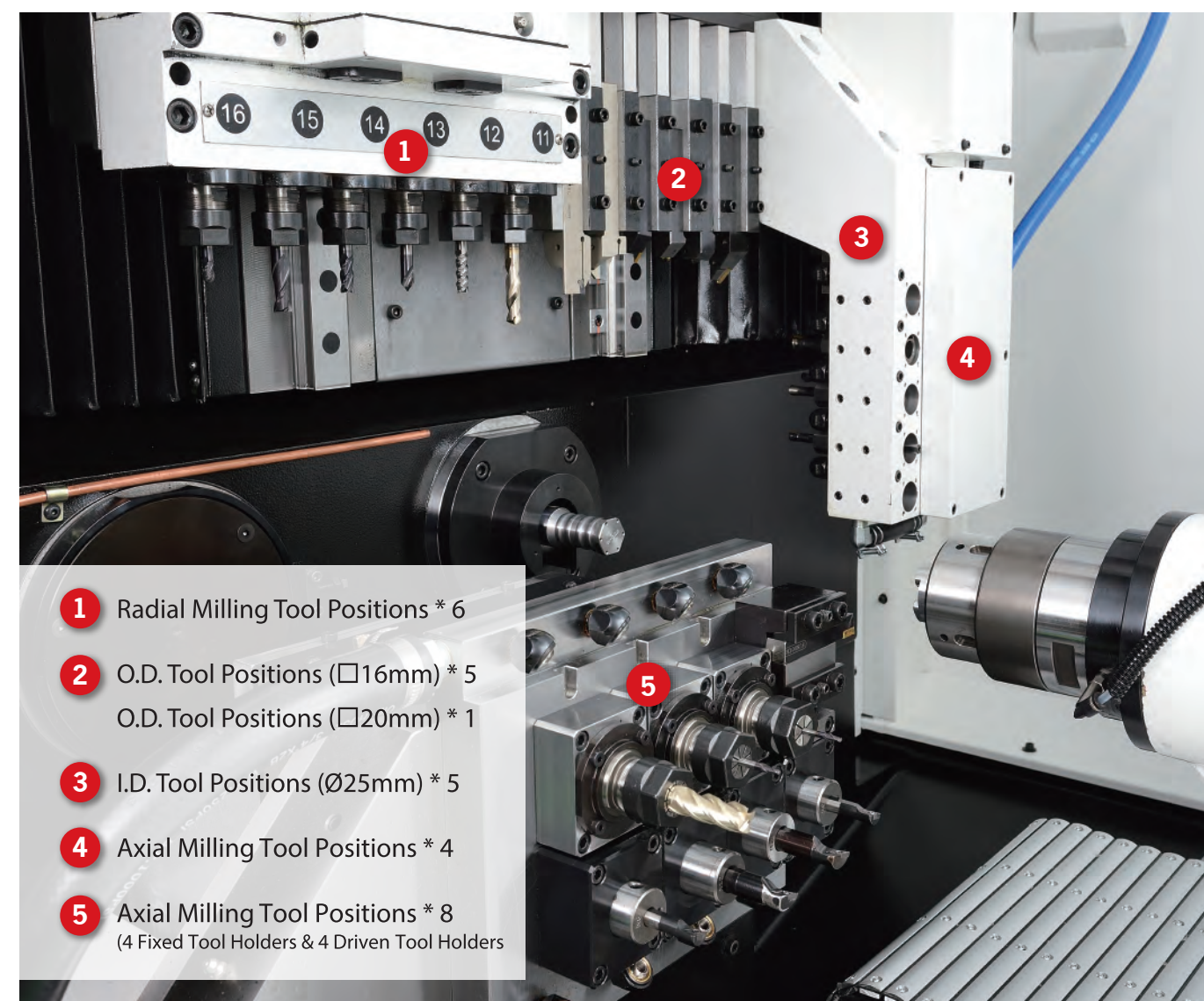
DIRECT DRIVE spindle, reducing machining vibrations and significantly improving stability.

- + Spindle maximum bar capacity is Ø42mm, 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 (□16mm) * 5
O.D. Tool Positions (□20mm) * 1
- 3 I.D. Tool Positions (Ø25mm) * 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

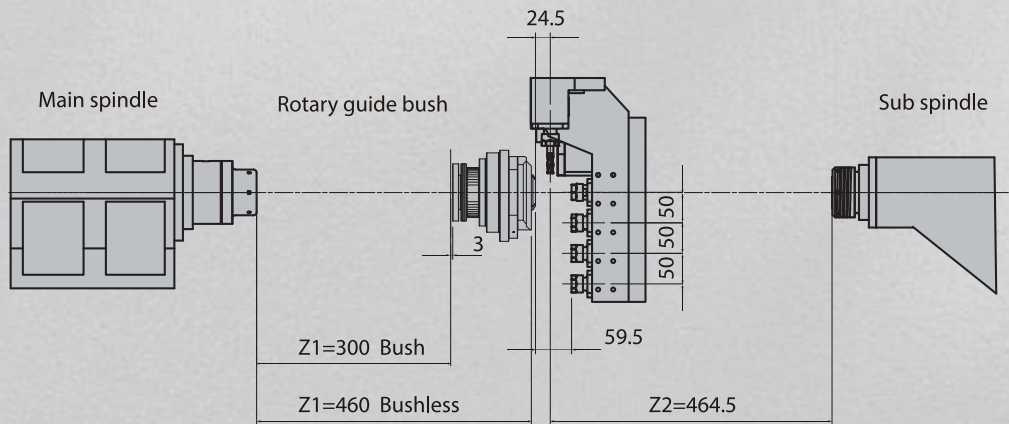
Sub spindle tooling system may be fitted with up to 8 ER-20 live tools, combines with the Y2 linear axis and C2 rotating axis to perform the more complex turning and milling process.

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

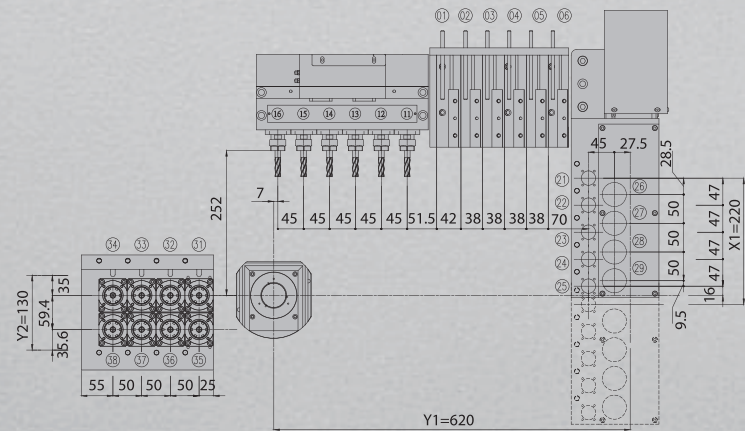
- + Live tooling is driven by a 2.2 kw servo motor.
- + Maximum live tooling speed is 6,000 rpm.

Interference Diagram

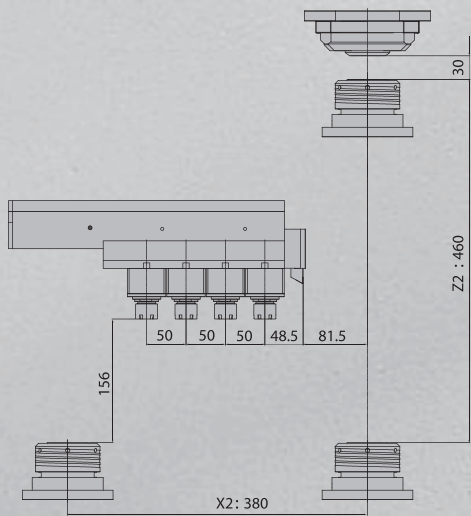
+ View A



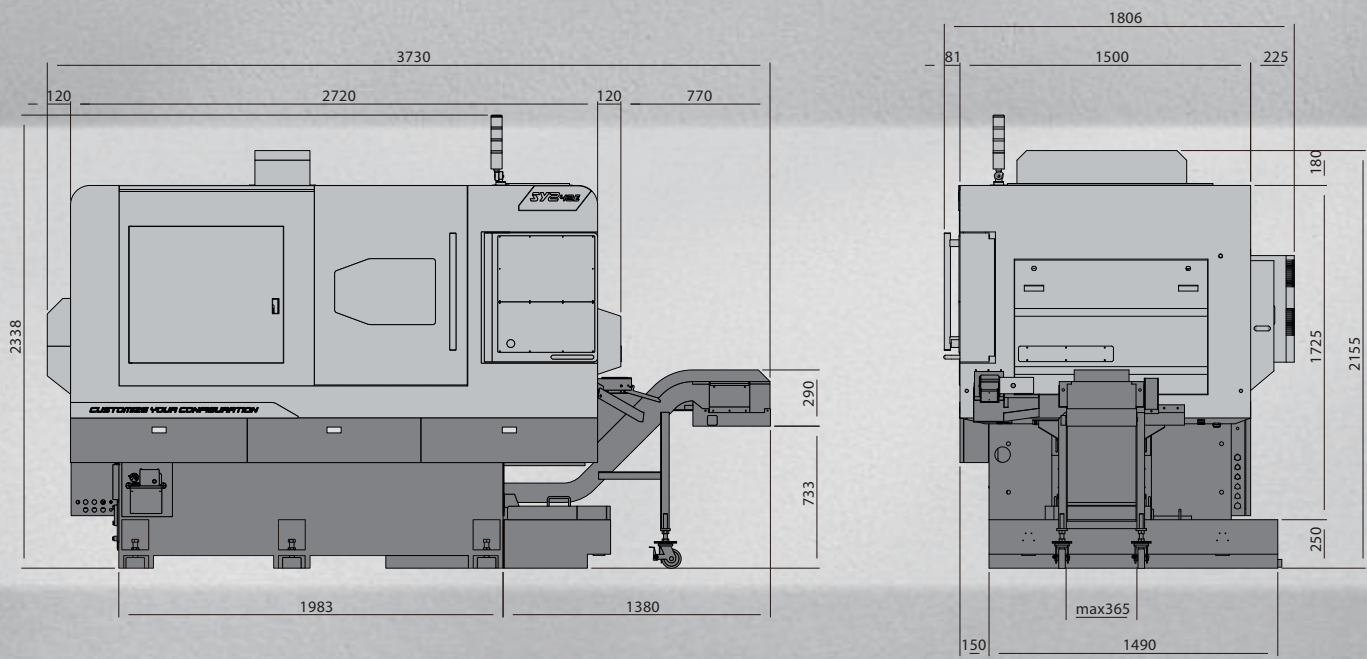
+ View B



+ View C



Machine Dimensions



Unit: mm

Machine Specifications

Machine Specification			SY2-42E	
Controller				
Capacity	Syntec		Mitsubishi	
Max. cutting length per chuck	320 mm (Guide bush) / 110 mm (Without guide bush)			
Axes Specification				
X1/Y1-axes travel	220 / 620 mm			
Z1-axis travel	320 mm (Guide bush) / 460 mm (Without guide bush)			
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 (Guide bush) / Ø51 mm (Without guide bush)			
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/0.75kw			
Tool coolant pump	1 HP/0.75kw			
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)	5000 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
- + Collet Sleeve Device 42# to 52#