

CITIZEN

# Cincom

## L12X

Sliding Headstock Type CNC Automatic Lathe





# L12X

**Now with the  
addition of a Y2 axis  
and modular tooling  
system for even higher  
functionality.**

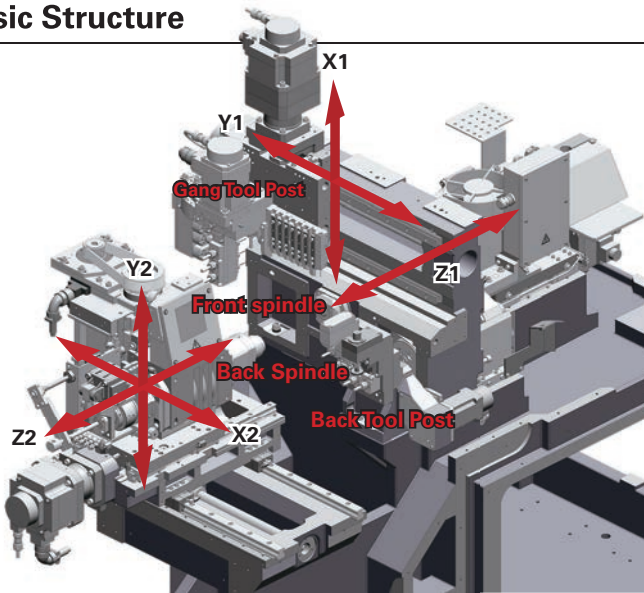


The Cincom L12 Series Swiss-type lathes feature a detachable guide bushing and 15,000 rpm high-speed spindle. These machines show uncompromising performance for high-speed, small-diameter applications.

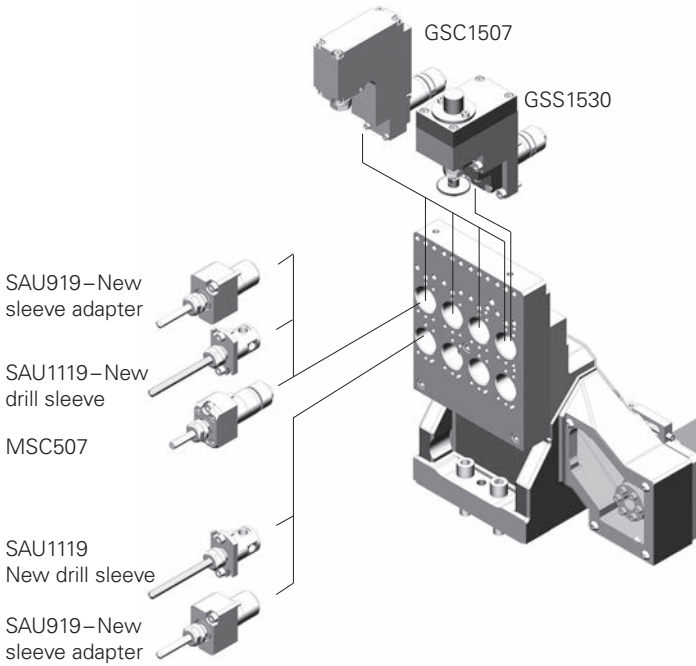
The newest L12 Type X with Y2 axis offers even higher functionality. A modular tooling system has been adopted for the gang and back tool posts. The wide variety of tooling layouts available, such as "adjustable angle end-face spindle" that allows for slanted hole drilling, enable you to perform various kinds of machining.

Equipped with a Y2 axis to the back spindle strengthens back machining. This increases the degree of freedom for process allocation, and increases the maximum number of tools that can be installed to 38. In addition, a built-in motor for the back spindle drive enables a maximum speed of 12,000 rpm. This reduces the acceleration/ deceleration time to improve productivity. Compatible with 16 mm oversize option.

## Basic Structure



## Back tool post tooling variation



LFV\* (low-frequency vibration) cutting is a technology for cutting in which each X/Z servo axis is vibrated in the cutting direction and synchronized with the spindle speed. This reduces various types of problems such as cutting chips being caught up in products or bladed tools, and enables small-diameter deep hole drilling and machining of materials that are difficult to cut.

Front X1, Z1	Back X2, Z2	LFV Mode 1	LFV Mode 2
○ Back performs standard cutting	○ Front performs standard cutting	○	○

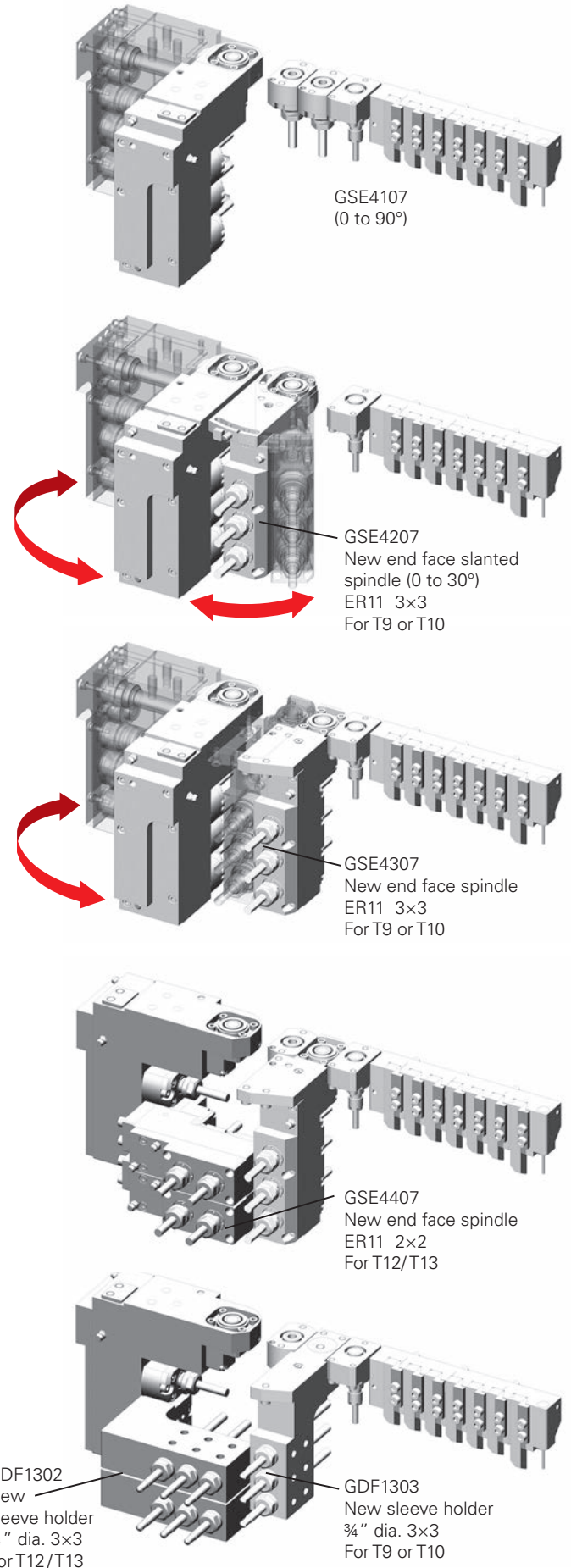
Note 1. LFV machining cannot be performed with the Y axis.

Note 2. Up to one pair (= two axes) can be operated simultaneously as LFV machining.

Note 3. LFV machining using rotary tools requires the "LFV function" and "Rotary tool per rotation feedrate" options.

\*LFV is a registered trademark of Citizen Watch Co., Japan.

## Gang tool post tooling variation



# Machine Specification

Item	L12 - 2M10
Max. machining diameter (D)	12 mm dia. (16mm oversize option)
Max. machining length (L)	135 mm/1 chucking (GB), 30 mm (GBL)
Max. front drilling diameter	8 mm dia.
Max. tapping diameter for the front spindle	M6
Spindle through-hole diameter	20 mm dia.
Main spindle speed	Max. 15,000 rpm (GB), Max. 12,000 rpm (GBL)
Max. chuck diameter for the back spindle	12 mm dia. (16mm oversize option)
Max. protrusion length	80 mm
Max protrusion length of the back spindle workpiece	30 mm
Max. drilling diameter for the back spindle	8 mm dia.
Max. tapping diameter for the back spindle	M6
Back spindle speed	Max. 12,000 rpm
Gang rotary tools	
Max. drilling diameter	5 mm dia.
Max. tapping diameter	M4
Main spindle speed	Max. 10,000 rpm
Back rotary tools (option)	
Max. drilling diameter	5 mm dia.
Max. tapping diameter	M4
Main spindle speed	Max. 9,000 rpm
Number of tools to be mounted	38
Gang tool post	6
Gang rotary tools	6 to 17
Front drills	Standard: 2, Max.: 11
Back drills	8 (17)
Tool size	
Turning tool	½" square shank
Sleeve	¾" diameter shank
Chuck and bushing	
Main spindle collet chuck	TF16 (TF20 for 16 mm oversize option)
Guide bushings	SD125R (0201 for 16 mm oversize option)
Back spindle collet chuck	TF16 (TF20 for 16 mm oversize option)
Rapid feed rate	
All axes	35 m / min
Motors	
Front spindle drive	3 hp / 5 hp (2.2 / 3.7 kW)
Gang tool post rotary tool drive	1 hp (0.75 kW)
Back spindle drive	1 hp / 2 hp (0.75 / 1.5 kW)
Back tool post rotary tool drive (option)	0.6 hp (0.5 kW)
Coolant oil	0.3 hp (0.25 kW)
Center height	41.33" (1,050 mm)
Rated power consumption	8 KVA
Full-load current	22 A
Main breaker capacity	40 A
Power supply voltage	AC200 V ± 10%
Pneumatic unit: Required pressure & required flowrate	0.5 MPa at 44 NL/min (Power on), 55 NL/min. (Stationary), 150 NL/min (Air blower)
Machine main unit dimensions	W 1,840 × D 970 × H 1,710 mm
Weight	4,850 lbs (2,200 kg)

## Main standard accessories

Main spindle chucking unit	Machine relocation detector
Back spindle chucking unit	Door lock
Gang rotary tool driving unit	Product chute
Coolant oil supply unit (with level detector)	Rotary guide bushing unit
Lubricating oil supply unit (with level detector)	Machine internal lighting equipment
Air-driven knock-out device for back machining	Back rotary tool driving unit

## Optional accessories

Servo ejector unit	Workpiece separator (for front)
Cut-off tool breakage detector	Signal lamp
Workpiece conveyor	Coolant flow rate detector
Knock-out jig for through-hole workpiece	3-color signal tower
Chip conveyor	
Scratchproof chute part	

## Standard NC functions

Cincom System FCA70LPC-2AVU (Mitsubishi Electric)	Circular thread cutting
8.4 inch color LCD	Tool life management I
Program storage capacity 160m (64 KB) tape length	Tool life management II
Constant surface speed control (main & back)	Geometric command function
Number of tool offset: 40 pairs	Main/back spindle synchronization
Automatic power-off function	C-axis control (main)
Workpiece counter display	C-axis control (back)
Run hour display	Sub-program running in external memory
Program check function (run program forward & reverse by pulse generator)	Milling interpolation function
Spindle speed fluctuation detection	Network I/O function
Tool nose radius compensation	User macro (G65-67)
Chamfer/Corner rounding function	Continuous threading cycle
Eco display	Helical interpolation
Three dimensional interference check function	Canned cycle for drilling
Machine status memory/display	Slant helical interpolation
Variable lead thread cutting	Hobbing function
	High-speed synchronous tapping
	Polygon turning function
	Synchronous tapping phasing function
	Inch/metric conversion
	Differential speed tap function
	Sub inch designation
	Canned cycle for threading

## Optional NC functions

Tool offset pairs: 80	Back machining program skip function
Program storage capacity: 320 m, 600 m	Low Frequency Vibration (LFV) function
Optional block skip (9 sets)	

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