

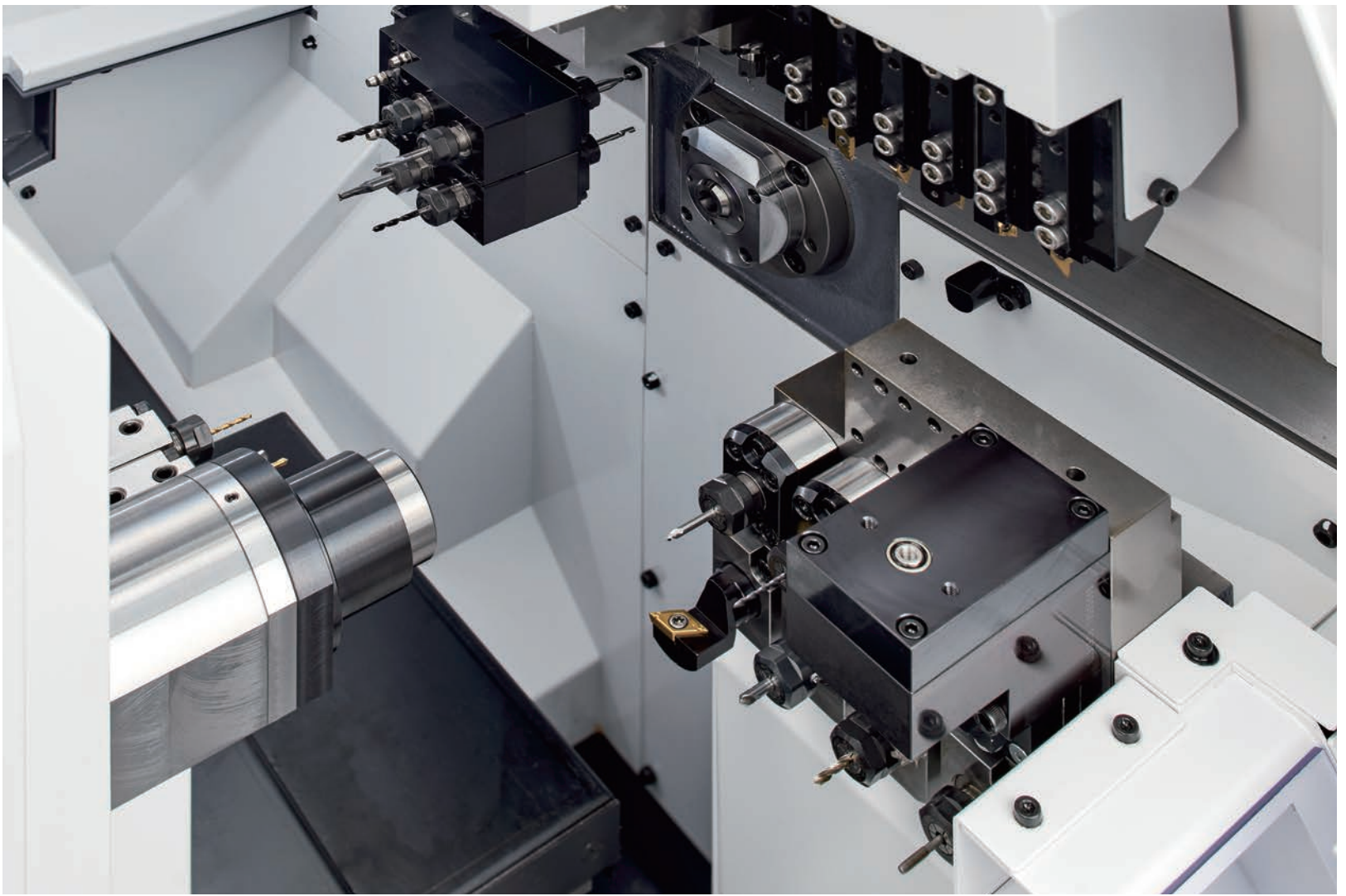
# Cincom

## L12-X

Sliding Headstock Type CNC Automatic Lathe

# CITIZEN





L12-X

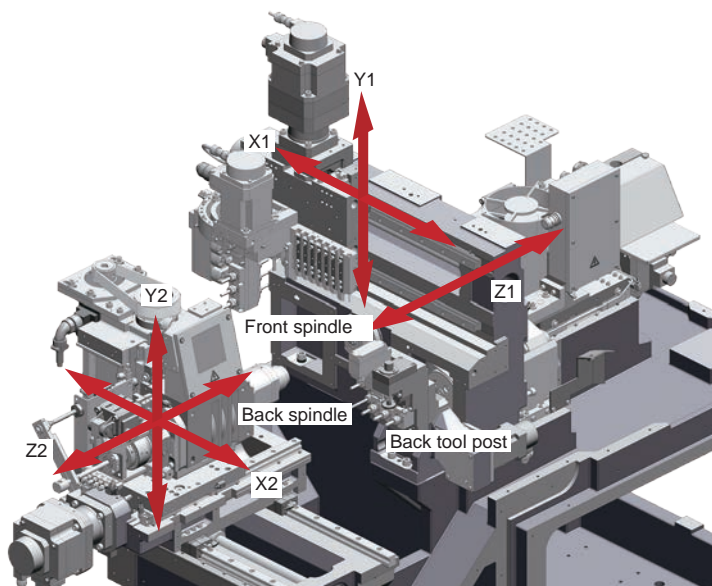
## Adoption of a modular tooling system Addition of Y2 axis for even higher functionality

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” allows for slanted hole drilling that enable you to perform various kinds of machining. Equipping of 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. Additionally, adoption of a built-in motor for the back spindle drive enables a maximum speed of 12,000 min<sup>-1</sup>. This reduces the acceleration/deceleration time to improve productivity. The machine is capable to handle up to 16 mm through expansion.

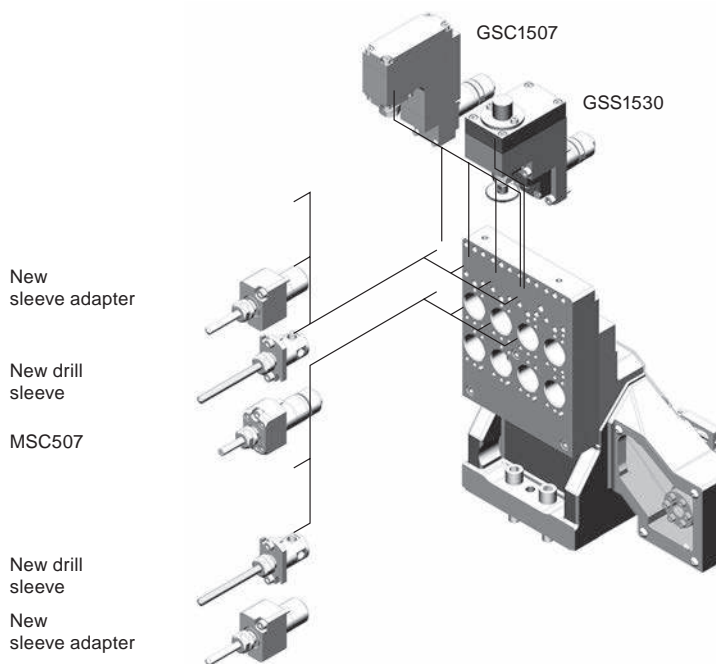


## Basic Structure

Model dependent



## Back tool post tooling variation



## LFV



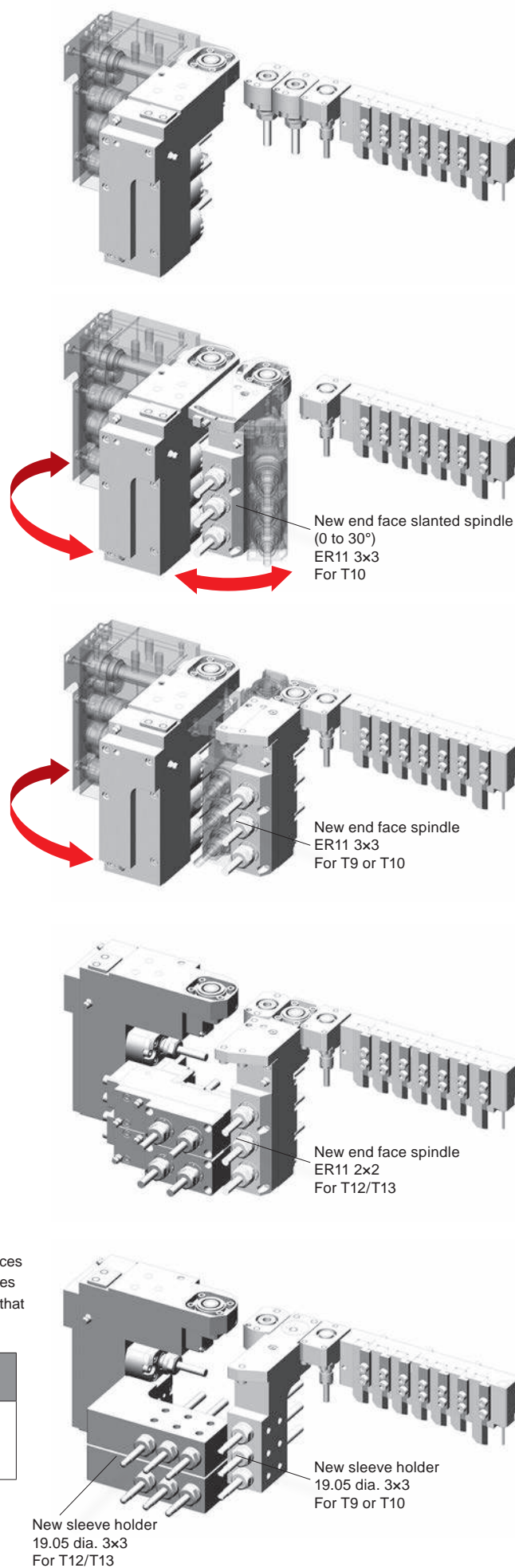
LFV\* (low-frequency vibration) cutting is a technology for cutting in which each X/Z servo axis is vibrated in the cutting direction and synchronized with the spindle speed. This reduces various types of problems such as cutting chips being caught up in components, workpieces or cutting tools, and enables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

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

1. LFV machining cannot be performed with the Y axis.
2. Up to one pair (= two axes) can be operated simultaneously as LFV machining.
3. LFV machining using rotary tools requires the "LFV function" and "Rotary tool per rotation feed rate" options.

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

## Gang tool post tooling variation





# Machine Specification

Item	L12-X
	L12 - 2M10
Max. machining diameter (D)	12 mm dia. / 16mm dia. (OPT)
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 min-1 (GB), Max. 12,000 min-1 (GBL)
Max. chuck diameter for the back spindle	12 mm dia.
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 min-1
<b>Gang rotary tools</b>	
Max. drilling diameter	5 mm dia.
Max. tapping diameter	M4
Main spindle speed	Max. 10,000 min-1
<b>Back rotary tools OP</b>	
Max. drilling diameter	5 mm dia.
Max. tapping diameter	M4
Main spindle speed	Max. 9,000 min-1
Number of tools to be mounted	38
Gang tool post	7
Gang rotary tools	6 to 17
Front drills	Standard: 2, Max.: 11
Back drills	8(17)
<b>Tool size</b>	
Turning tool	Ø10 mm, Ø12 mm <sup>OPT</sup>
Sleeve	19.05 mm dia.
<b>Chuck and bushing</b>	
Main spindle collet chuck	TF16 (Ø16 Opt. TF20)
Guide bushings	B212A (Ø16 Opt. B238)
Back spindle collet chuck	TF16 (Ø16 Opt. TF20)
<b>Rapid feed rate</b>	
All axes	35 m / min
<b>Motors</b>	
Front spindle drive	2.2 / 3.7 kW
Gang tool post rotary tool drive	0.75 kW
Back spindle drive	0.75 / 1.5 kW
Back tool post rotary tool drive OP	0.5 kW
Coolant oil	0.25 kW
Centre height	1,050 mm
Rated power consumption	6.6 KVA
Full-load current	22 A
Main breaker capacity	40 A
Power supply voltage	AC200V ± 10%
Pneumatic unit: Required pressure and required flow rate	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	2,200 kg

## Main standard accessories

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

## Special accessories

Rotary guide bushing unit	Motor-driven knock-out device for back machining
Cut-off tool breakage detector	Workpiece conveyor
Knock-out jig for through-hole workpiece	Chip conveyor
Scratchproof chute part	Medium-pressure coolant unit
Workpiece separator (For front)	Signal lamp
Coolant flow rate detector	3-colour signal tower
Machine internal lighting equipment	LFV

## Back rotary tool driving unit

## Standard NC functions

CINCOM SYSTEM M70LPC-VL (Mitsubishi Electric)	8.4 inch colour liquid crystal display (LCD)
Program storage capacity: 40 m (Approx. 16 KB)	Constant peripheral speed control function
Tool offset pairs: 40	Automatic power-off function
Product counter indication (up to 8 digits)	Spindle 1° indexing function
Operating time display function	On-machine program check function
Spindle speed change detector	Nose radius compensation
Chamfering/Corner R function	Spindle speed change detector
Eco display	Obstruction check
Machine operation information display	

## Special NC functions

Variable lead thread cutting	Tool offset pairs: 80
Arc threading function	Tool life management I
Geometric command function	Tool life management II
Spindle synchronised function	Program storage capacity: 600 m (Approx. 240 KB)
Spindle C-axis function	External memory program driving
Milling interpolation function	Network I/O function
Back spindle 1° indexing function	Submicron commands
Back spindle C-axis function	User macros
Back spindle chasing function	Helical interpolation function
Canned cycle for drilling	Inclined helical interpolation function
Synchronised tapping function	Hob function
High-speed synchronised tapping function	55 NL/min. (Stationary), Polygon function
Synchronised tapping phase adjustment function	Inch command
Differential speed rotary tool function	Sub inch command
Optional block skip (9 sets)	Back machining program skip function
Canned cycle for composite turning	

# CITIZEN

## CITIZEN MACHINERY CO., LTD.

### Japan

Citizen Machinery Co Ltd  
4017-6 Miyota, Miyota-machi, Kitasaku-gun,  
Nagano-ken, 389-0206, Japan

Tel: 81-267-32-5901 Fax: 81-267-32-5908

### Europe - Germany

Citizen Machinery Europe GmbH  
Mettinger Strasse 11, D-73728 Esslingen, Germany

Tel: 49-711-3906-100 Fax: 49-711-3906-106

### Europe - UK

Citizen Machinery UK Ltd  
1 Park Avenue, Bushey, WD23 2DA, UK

Tel: 44-1923-691500 Fax: 44-1923-691599

[www.citizenmachinery.co.uk](http://www.citizenmachinery.co.uk)

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