

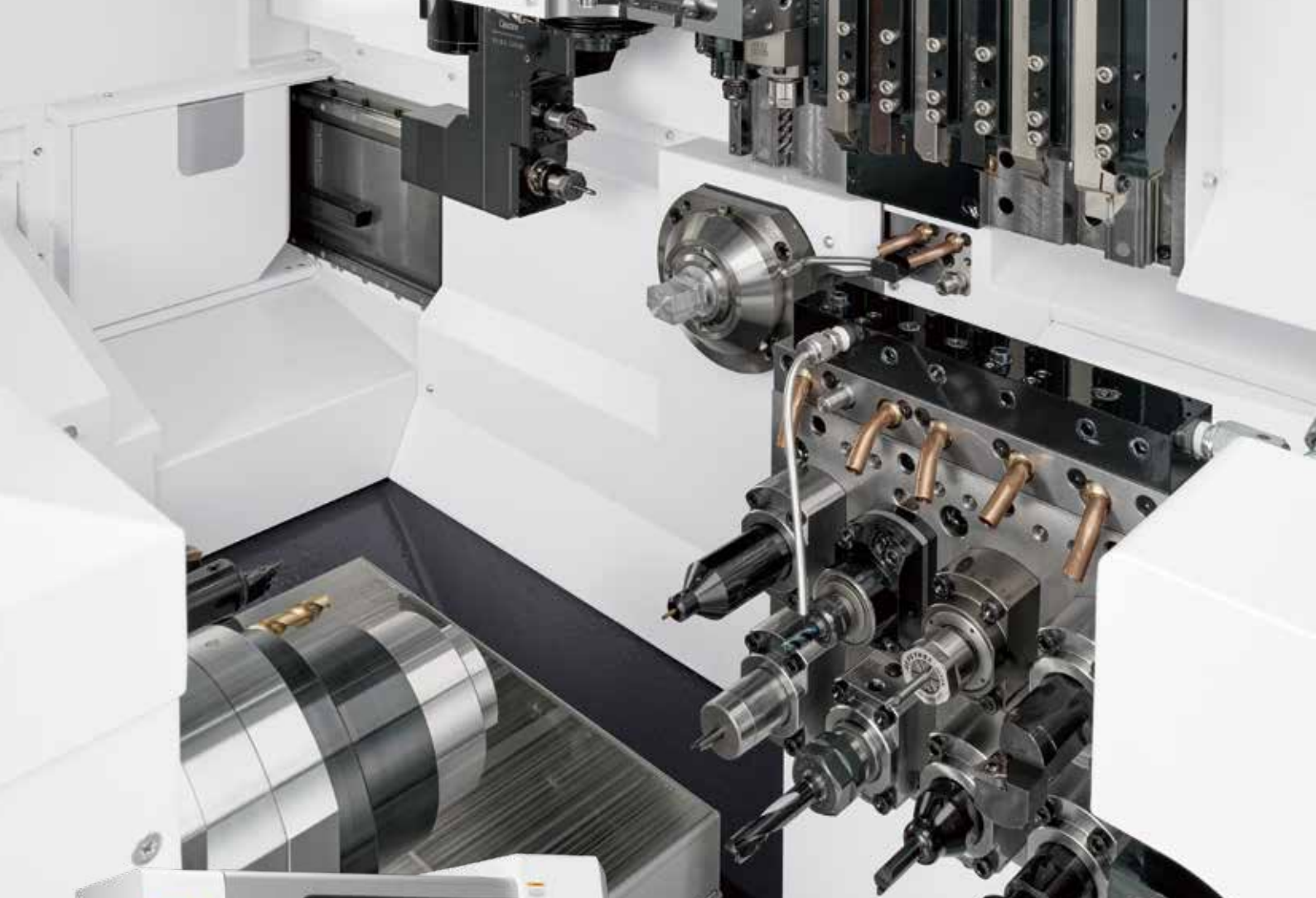
CITIZEN

**Cincom**

**L32**

Sliding Headstock Type Automatic CNC Lathe





L32XII B5 (ATC unit is an option)



## EcoBalance Machine

CITIZEN MACHINERY aims to create a sustainable society by innovating customers' manufacturing workflow with a focus on their future issues as well as their current ones.

We work to continuously enhance corporate value through "sustainable management" that takes into account social issues such as human rights and the global environment throughout the value chain, while at the same time promoting the provision of "sustainable products" such as our proprietary technologies, which include LFV (low-frequency vibration cutting) technology, the "FA-friendly" robot system, and "alkappliesolution" utilizing ICT technology, centering on the Cincom and Miyano brands.

## Full Model Change for Cincom L32 with Introduction of the L32XII B5 Capable of Simultaneous 5-Axis Control

Basic performance and operability are improved, and a variety of optional devices and functions for automation and labor savings can be installed.

With the addition of XII B5, which is capable of simultaneous 5-axis control, more complex workpieces can be machined efficiently using tool paths with a high degree of flexibility involving B-axis machining. In addition, since a loader unit and ATC unit can be installed at the same time, the B axis on the ATC unit can also be used for machining of formed materials, enabling efficient production of workpieces where the focus is on milling, which have conventionally been handled on a machining center.

# Basic Construction

	Type VIII	Type IX	Type X	Type XII	Type XII B5
B axis (rotary tools on the gang tool post)	—	○	—	○	○
Y2 axis (back tool post Y axis)	—	—	○	○	○
Rotary tools on the opposite tool post	OP	OP	OP	OP	OP
Rotary tools on the back tool post	OP	OP	○	○	○

## Rotary tools on the gang tool post

6,000min<sup>-1</sup>(Max) / 4,500min<sup>-1</sup> (rating)  
 B-axis IX, XII, XII B5  
 9,000min<sup>-1</sup> (Max) / 6,000min<sup>-1</sup> (rating)  
 Motor : 1.0kW

## Rotary tools on the gang tool post

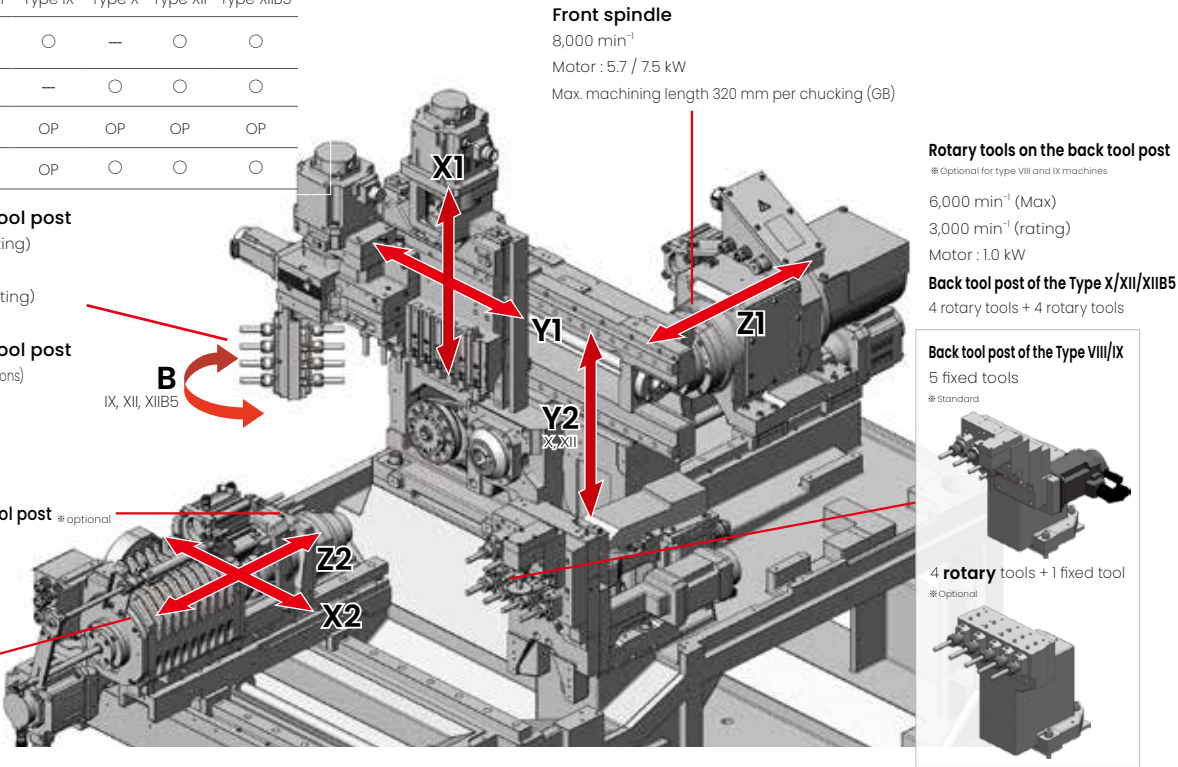
(with optional increased power specifications)  
 9,000min<sup>-1</sup> (rating, Max)  
 B-axis IX, XII, XII B5  
 12,000min<sup>-1</sup> (rating, Max)  
 Motor : 2.2kW

## Rotary tools on the opposite tool post \*optional

6,000 min<sup>-1</sup>(Max)  
 3,000 min<sup>-1</sup>(rating)  
 Motor : 1.0 kW

## Back spindle

8,000 min<sup>-1</sup>  
 Motor : 3.7 / 5.5 kW



# More tools and more efficient setup

Maximum of 53 simultaneously-mounted tools, with an expansion tool holder mountable on the back tool post to give it a capacity of up to 12 tools.

In addition to machining of complex-shaped workpieces, the wealth of tools makes it possible to reduce the frequency of setup changes even in high-mix production.

Compatibility with tool holders that support through-spindle coolant and can therefore be mounted/removed without worrying about piping and with CIToolingSystem also cuts setup time.



 **CIToolingSystem**

# Enhanced automation and labor-saving options

A full range of automation and labor-saving functions, including in-machine measurement and collection of workpieces according to type using FA Friendly, supports customers' next-generation smart factories.



**FA Friendly**

# LFV (low frequency vibration cutting technology) is evolving

The LFV function, which reduces trouble with chips by breaking them up during cutting, is now usable with four-axes simultaneous control. LFV on the X2 and Z2 axes can be specified for back machining while LFV on the X1 and Z1 axes are specified for front machining.

This makes it possible to reduce the loss in queuing between front and back machining and shorten the cycle time in LFV machining. Cutting down the volume of chips shortens the downtime, due to tank cleaning and chip trouble, and extends the possible duration of unmanned operation. In addition, the amount of lubricant used in LFV machining is cut to two-thirds of that used previously, which reduces the frequency of lubrication and makes the machine friendlier for people and the environment.



Chips generated by conventional cutting      Chips with LFV

# Towards sustainable manufacturing

Energy-saving functions to achieve optimum control of power/ air consumption, such as the idling stop function and the air blow intermittent discharge function, are provided as standard. ECOII, which visualizes energy consumption and CO2 emissions, supports the efforts of the factory to reduce CO2 emissions.

We will contribute to sustainable manufacturing through technology, with a variety of options such as the "remnant bar reduction function" that reduces the remnant length by 80% using friction joining technology.



ECOII



Remnant bar reduction function

Machine Specifications

Item	L32				
	VIII	IX	X	XII	XIIB5
	L32-2M8	L32-2M9	L32-2M10	L32-2M12	L32-2M12B5
Max. machining diameter (D)	φ 32 mm ( φ 38 mm OP)				
Max. machining length (L)	GB: 320 mm / 1 Chuck, GBL: 80 mm				
Max. front drilling diameter	φ 12 mm				
Max. front tapping diameter	M12 (cutting tap)				
Spindle through-hole diameter	φ 39 mm				
Spindle speed	Max. 8,000 min <sup>-1</sup>				
Max. chucking diameter of back spindle	φ 32 mm ( φ 38 mm OP)				
Max. workpiece protrusion length of back spindle	80 mm		65 mm		
Max. taking-out length of the product	150 mm		140 mm		
Max. drilling diameter in back machining	φ 10 mm				
Max. tapping diameter in back machining	M10 (cutting tap)				
Back spindle speed	Max. 8,000 min <sup>-1</sup>				
Gang tool post rotary tool					
Max. drilling diameter	φ 10 mm				
Max. drilling diameter	M8 (cutting tap)				
Spindle speed	Max. 6,000 min <sup>-1</sup> (rated speed: 4,500 min <sup>-1</sup> )				
	S3 high-power motor specifications: Max.9,000min <sup>-1</sup> (rated speed: 9,000 min <sup>-1</sup> ) (optional)				
Back rotary tool (optional)					
Max. drilling diameter	φ 8 mm				
Max. tapping diameter	M6 (cutting tap)				
Spindle speed	Max. 6,000 min <sup>-1</sup> (rated speed: 3,000 min <sup>-1</sup> )				
Rotary tools on the opposite tool post (optional)					
Max. drilling diameter	φ 8 mm				
Max. tapping diameter	M6 (cutting tap)				
Spindle speed	Max. 6,000 min <sup>-1</sup> (rated speed: 3,000 min <sup>-1</sup> )				
Max. number of mountable tools	48	40	53	45	
Turning tools on the gang tool post	6	6	6	6	
Rotary tools on the gang tool post	33	25	33	25	
Front drilling tools	4	4	4	4	
Back drilling tools	6	6	12	12	
Tool size					
Turning tools	□ 16 mm × 130 mm (cut-off: □ 20 mm)				
Sleeve	φ 25.4 mm				
Chuck / bushing					
Front spindle collet chuck	FC08I-M (FC25I-M: φ 38 mm)				
Back spindle collet chuck	FC08I-M (FC25I-M: φ 38 mm)				
Rotary tool collet chuck	ER11, ER16				
Chuck for drill sleeve	ER11, ER16				
Guide bushing	FG53I-M (FG58I-M: φ 38 mm)				
Rapid feed rate					
X1, Y1, Z1, X2, Z2 axes	32 m / min				
Y2 axis	-		24 m / min		
Motor					
For front spindle drive	5.5/ 7.5/ 7.5 kW (continuous/40%ED/10%ED rating)				
For back spindle drive	3.7/ 5.5 kW (continuous/40%ED rating)				
For driving rotary tools on the gang tool post	1.0 kW				
	S3 high-power motor specifications 2.2 kW (optional)				
For front rotary tool drive (optional)	1.0 kW				
For back rotary tool drive (optional)	1.0 kW				
For coolant	0.4 kW				
For lubrication pump	0.003 kW				
Rated power consumption	17.0 kVA				
Load operation average power consumption	10.0 kVA				
Total load current	71.2 A				
Main breaker capacity	100 A				
Supply voltage	AC 200V ± 10%				
Pneumatic device Required pressure	0.5 MPa				
Center height	1,050 mm				
Machine body dimensions	W 3,246 × D1,438 × H1,835 mm				
Mass	3,500 kg				

Standard Accessories

Spindle chucking device	Back spindle chucking device
Rotary tool spindle drive device of the gang tool post	Back rotary tool driving device (X, XII, XIIB5)
Rotary guide bushing drive unit	Cut-off tool breakage detector
Coolant tank (with level detector)	Central lubrication device (with level detector)
Air-driven knock-out device for back machining	Machine relocation detector
Spindle cooling device	Automatic fire extinguisher
Workpiece conveyor	

Special Accessories

Knock-out device for through-hole workpieces	Motor-driven knock-out device for back machining
Rotary guide bushing device	Long workpiece device
Unloader device	Servo-driven chucking device
Opposite tool post rotary tool drive device	Back rotary tool drive device (VIII, IX, X, XII)
Chip conveyor	Medium-pressure coolant device
High-pressure coolant device	Coolant flow rate detector
3-color signal tower	Servo-driven chucking device
Loader device	LFV
ATC Unit	Extended coolant tank device
Automatic in-machine measurement	CIToolingSystem

Standard NC Functions

CINCOM SYSTEM M850LUC-V	Product of Mitsubishi Electric : XIIIB5
CINCOM SYSTEM M820LUC-V	Product of Mitsubishi Electric : VIII, IX, X, XII
15-inch XGA touch panel	Program storage capacity 1200 m ( 480 KB)
Tool offset pairs: 99 pairs	Product counter: Max. 8 digits
User disk space: 100 MB	Preparation function
Operating time display	Machine operation information display
B-axis control function	Back machining program skip function
Interference check	Collision detection function
Spindle speed fluctuation detection function	Spindle constant surface speed control function
Automatic power-off function	Spindle 1° indexing function
On-machine program check function	Tool nose radius compensation function
Eco II function	Corner chamfering/corner rounding
Multiple repetitive cycle for turning	USB slot and SD card slot
Automatic chucking force adjustment function	Chucking force monitoring function (only servo-driven chucking device)

Special Additional NC Functions

Variable lead thread cutting	Circular thread cutting
3D chamfering function	Geometric command function
Spindle synchronized control function	Spindle C-axis function
Milling interpolation function	Back spindle 1° indexing function
Back spindle C-axis function	Back spindle chasing function
Canned drilling cycle	Synchronized tapping phase alignment function
Synchronized tapping function	High-speed synchronized tapping function
Differential speed rotary tool function	Optional block skip (9 sets)
Tool life management I	Tool life management II
Program storage capacity	External memory program operation
Sub-microns command	User macro
Helical interpolation function	Slant helical interpolation function
Hobbing function	Polygon machining function
Inch specifications	Sub-inch specifications
alkarttransfer	RS-232C connector
Rotary tool feed per revolution	Tool monitor function

CITIZEN

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