

CITIZEN

Cincom

B12/16E

Sliding Headstock Type CNC Automatic Lathe



Cincom's B series 'best seller' model has been revamped to expand the machining range up to $\phi 16$ mm. And the cost has been substantially reduced.

The B series, which has sold well worldwide for a long time, has been revamped with a significant price revision. The B16E can handle diameters up to $\phi 16$ mm, so the range of target workpieces has been expanded. The B series is renowned for its speed, accuracy and high reliability at extremely low running cost. This 4th generation model retains the same tool layout which that brings high-accuracy machining. The rigidity of the back headstock has been improved. Preprocessing, for shortest cycle time is supported by an on-machine program check function for easy proveout. The standard specifications include a comprehensive range of NC functions.

Program processed before operation

Preprocessing

Running the calculations in NC programs in advance shortens the processing time during operation, which helps to cut cycle times.

Tool post configuration factoring in thermal expansion

Tool layout compensating for thermal displacement

Virtual XY axis control is used to achieve a tool layout that is not too focused on the ball screw axis. This suppresses the effects of thermal displacement and makes it possible to maintain high accuracy during continuous machining.

Achieving smooth setup changes

On-machine program check function

This is for running a program in the forward or reverse direction using the manual pulse handle while checking the machine operations. NC programs can be checked intuitively and in an easy-to-understand manner.

Comprehensive standard specifications

Full NC functions

A wealth of functions generally treated as options, like canned cycle drilling, direct input of drawing dimensions, and user macros, are featured as standard NC functions.

Flexible support according to the application

A range of optional accessories

The wide range of optional accessories available, including the shaft processing unit (types I and II) and

the long workpiece unit (types V and VI) means that you can change the specifications according to your needs.

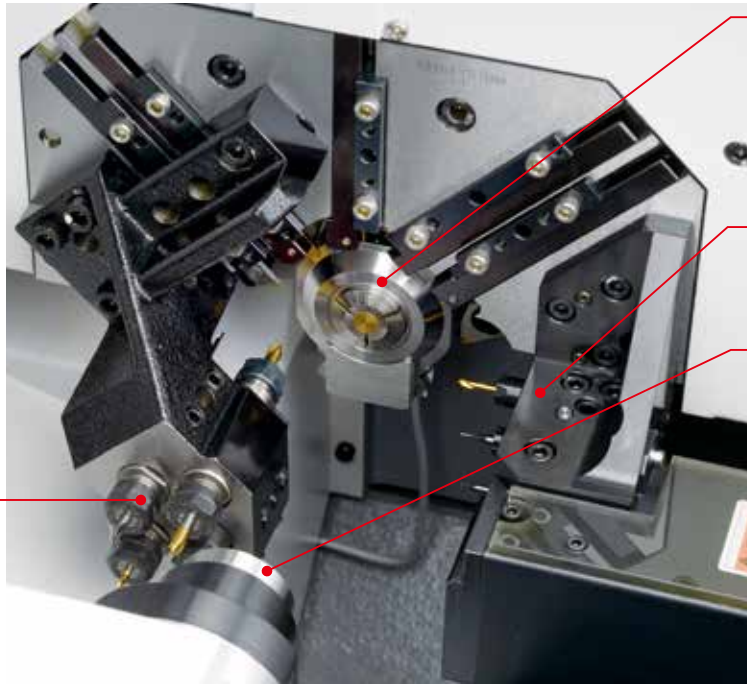
Produced in our Zibo, China facility

Language support expanded to include Chinese

In addition to the conventional display in Japanese and English, the machine operation screens also support display in Chinese. Chinese instruction manuals and caution plates have also been prepared, so there is complete support for Chinese.



B16E typeVI Tooling Example



Drill Sleeve Holder

This holder can mount four drilling tools as standard. $\phi 19.05^{OP}$ and $\phi 20$ gauges are available.

Front Spindle

B12E Max. spindle speed : 12,000min⁻¹
When using an RGB : 8,000min⁻¹
B16E Max. spindle speed : 10,000min⁻¹
When using an RGB : 8,000min⁻¹
Max. drilling diameter : $\phi 6$ mm

Rotary Tools

Max. rotational speed : 4,500min⁻¹
Max. drilling diameter : $\phi 5$ mm

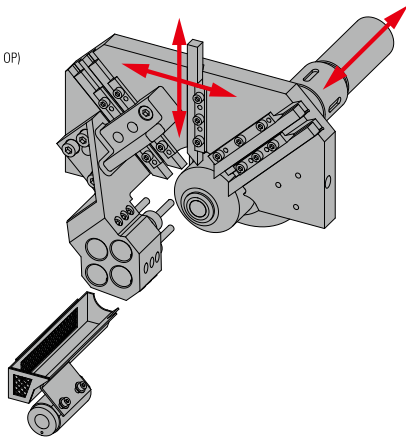
Back Spindle

Max. spindle speed : 6,000min⁻¹
Max. drilling diameter : $\phi 5$ mm

Tooling Patterns

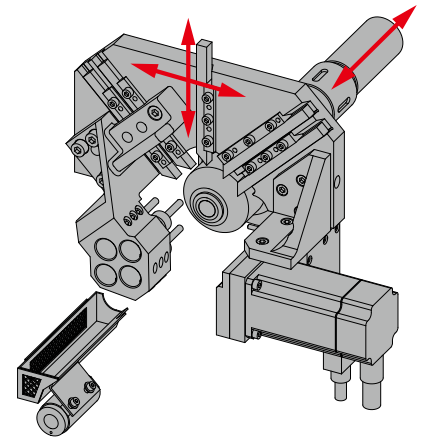
B12/16E typeI

Turning tools : 5 (8 tools OP)
Front drilling tools : 4



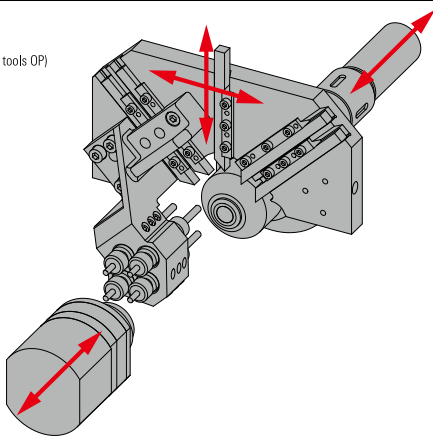
B12/16E typeII

Turning tools : 5 (8 tools OP)
Rotary tools on the gang tool post : 2 (3^{OP})
Front drilling tools : 4



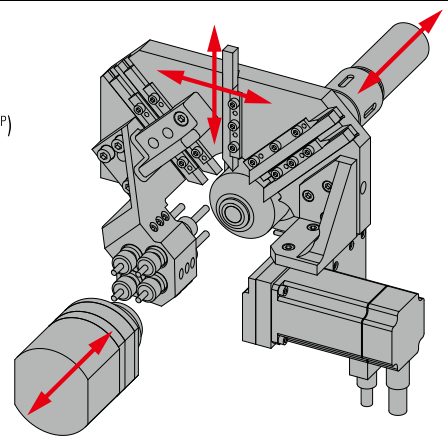
B12/16E typeV

Turning tools : 5 (8 tools OP)
Front drilling tools : 4
Back drilling tools : 4



B12/16E typeVI

Turning tools : 5 (8 tools OP)
Rotary tools on the gang tool post : 2 (3^{OP})
Front drilling tools : 4
Back drilling tools : 4



Program input/output

NC programs can be input and output by using the PC card slot or the USB terminal. Support for RS-232C is also available as an option.



Product chute Types V and VI

The back spindle retracts and ejects the workpiece into the chute, which drops it to the product receiver box. By reversing the product receiver box, it can be used as an oil bath.



Chip receiver box

The chip receiver box is easily drawn out for efficient cleaning.



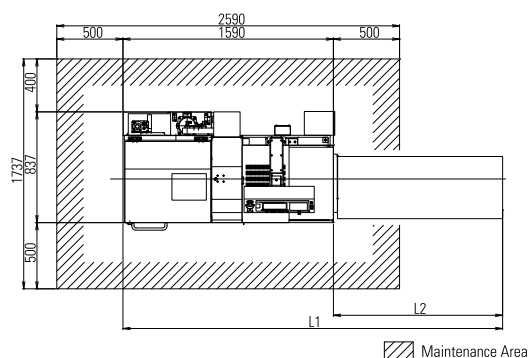
Coolant tank

The coolant tank has a large capacity of 117 liters and can be moved easily when carrying out maintenance.

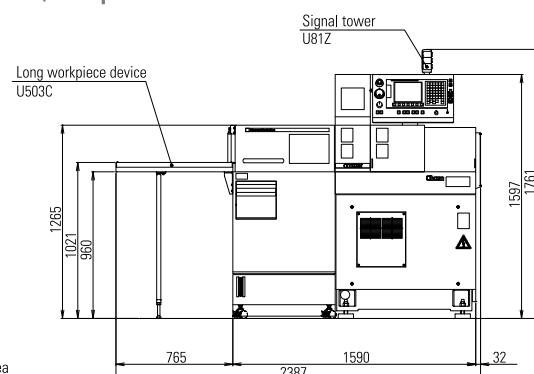
Machine Specification

Item	B12E				B16E			
	I (B12E-1F1)	II (B12E-1F2)	V (B12E-1F5)	VI (B12E-1F6)	I (B16E-1F1)	II (B16E-1F2)	V (B16E-1F5)	VI (B16E-1F6)
Maximum machining diameter (D)	φ12mm				φ16mm			
Maximum machining length (L)	135 mm/1 chucking (60mm/1 chucking with RGB)							
Maximum front drilling diameter	φ6mm							
Maximum front tapping diameter (tap, die)	M6							
Spindle through-hole diameter	φ20mm							
Main spindle speed	12,000min ⁻¹ (8,000min ⁻¹ with RGB)				10,000min ⁻¹ (8,000min ⁻¹ with RGB)			
Max. drilling diameter for the gang rotary tool	—	φ5mm	—	φ5mm	—	φ5mm	—	φ5mm
Max. tapping diameter for the gang rotary tool	—	M4	—	M4	—	M4	—	M4
Spindle speed of the gang rotary tool	—	4,500min ⁻¹	—	4,500min ⁻¹	—	4,500min ⁻¹	—	4,500min ⁻¹
Max. chuck diameter of back spindle	—		φ12mm		—		φ16mm	
Max. protrusion length of the back spindle workpiece	—		30mm		—		30mm	
Maximum protrusion length	135mm		80mm		135mm		80mm	
Max. drilling diameter in back machining process	—		φ5mm		—		φ5mm	
Max. tapping diameter in back machining process	—		M3		—		M3	
Back spindle speed	—		6,000min ⁻¹		—		6,000min ⁻¹	
Number of tools to be mounted	9	11	13	15	9	11	13	15
Turning tools on the gang tool post	5 (8 ^{OP})	5	5 (8 ^{OP})	5	5 (8 ^{OP})	5	5 (8 ^{OP})	5
Cross rotary tools	—	2 (3 ^{OP})	—	2 (3 ^{OP})	—	2 (3 ^{OP})	—	2 (3 ^{OP})
Tools for front drilling	4	4	4	4	4	4	4	4
Tools for back drilling	—		4		—		4	
Tool size								
Tool (gang tool post)	□10×120mm or 60mm							
Sleeve	φ20mm (φ19.05mm ^{OP})							
Chuck and bushing								
Main spindle collet chuck	FC096-M				FC261-M			
Back spindle collet chuck	—		FC096-M-K		—		FC261-M-K	
Rotary tool collet chuck	—	ER8	—	ER8	—	ER8	—	ER8
Chuck for drill sleeves	ER8, ER11							
Guide bushing	WFG541-M / WFG551-M				WFG660-M			
Rapid feed rate								
X and Y axes	21m/min							
Z axis	15m/min							
A2 axis	—		15m/min		—		15m/min	
Motors								
Spindle drive	2.2/3.7kW							
Tool spindle drive	—	0.5kW	—	0.5kW	—	0.5kW	—	0.5kW
Back spindle drive	—		1.0kW		—		1.0kW	
Coolant oil	0.18kW							
Center height	1000mm							
Rated power consumption	3.3kVA		5.2kVA		3.3kVA		5.2kVA	
Full-load current	18A		20A		18A		20A	
Main braker capacity	30A							
Air pressure and air flow rate for pneumatic devices	0.5MPa-30NI/min (Max.50NI/min)							
Weight	1100kg		1150kg		1100kg		1150kg	

B12/16E Standard machine layout



B12/16E Option-installed machine



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Standard accessories

Main spindle chucking device

Back spindle chucking device *only V & VI

Workpiece separator *only I & II

Coolant device (with level detector)

Lubricating oil supply unit (with level detector)

2 Gang rotary tool driving devices *only II & VI

Machine relocation detector

Door lock function

Special accessories

Fixed guide bushing device

Rotary guide bushing device

Coolant flow rate detector

Signal lamp

Lighting

End-face rigid tapping device *only I & II

Back spindle long workpiece device *only V & VI

Knock-out jig for through-hole workpiece *only V & VI

Standard NC functions

NC unit dedicated to the B1216E series

8.4 inch color liquid crystal display (LCD)

Operating time display

Preparation functions

Main spindle speed change detector

Corner chamfering/ rounding function

Canned drilling cycle

Nose R compensation function

Direct input of on-drawing dimensions

Main spindle constant surface speed control

Program storage capacity : 40m (approx.16KB)

Tool offset pairs : 64 pairs

Product counter indication (up to 8 digits)

Automatic power-off function

Multiple repetitive cycle

User macro

Continuous threading function

On-machine program check function

Program prior analysis function

Special NC functions

Program storage capacity 2500m (approx.1MB)

Sub-micron command function

Front end-face rigid tapping function

Tool spindle rigid tapping function *only II & VI

Tool spindle end-face rigid tapping function *only I & II

Hobbing and polygon machining function (A) *only I & II

Hobbing and polygon machining function (B) *only II & VI

Front-back simultaneously machining function *only V & VI

Main spindle indexing at 1° intervals *only II & VI

Simplified Z-A2 axes synchronization function *only V & VI

Tool life management

URL: <http://cmj.citizen.co.jp/>

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