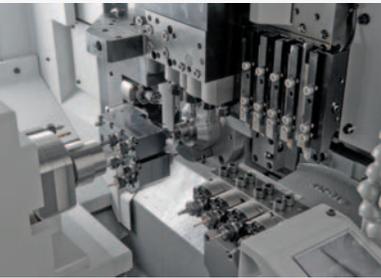


Cincom



Cincom Evolution Line

Sliding Headstock Type Automatic CNC Lathe

L20E

L



Efficient Production – Impressive Value

Cincom Evolution line from Citizen

Introducing the L20E – meeting the needs of today

Cincom Evolution



Citizen's highly successful L20 series evolves for the new age to meet the needs of the drastically changing global market

Up to 32 tools

To meet the trend to produce complex parts on a lower cost machine

Tooling layout quickly changeable

The layout is easily adapted to suit parts with priority towards mainly cross drilling/milling, or face milling/drilling or turning

Now with back slitting and back cross drilling capability

Same holder is adaptable for both slitting and cross drilling

Citizen's renowned ease of use

Citizen is the machine of choice for fast set-ups and changeovers

Citizen's unique Cincom Control (Streamline Control) cuts non-cutting time to a minimum

Citizen's dynamic software development leads the swiss type/sliding head sector

Back rotary tool drive now standard

4 live positions for fixed, end face drilling/milling, slitting, cross drilling

L20E Workpiece Examples

IT parts



Automobile parts



Medical parts



Next tool advances while the previous tool retracts

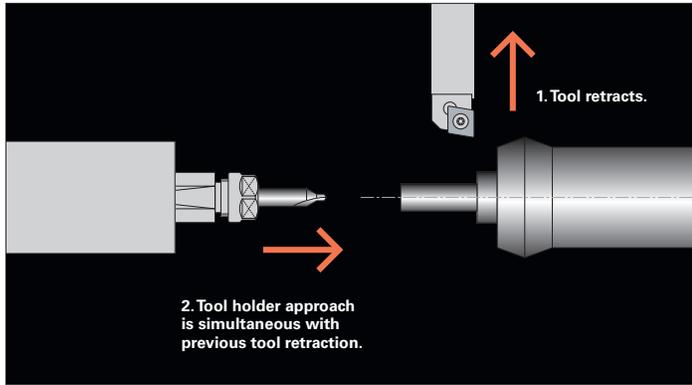
Cincom Control cuts non-cutting time to a minimum

Cincom Control

Citizen has developed a new control method system for high-speed, smooth axis motion. "Cincom Control" reduces idle time, increases feed rates and substantially reduces cycle time.

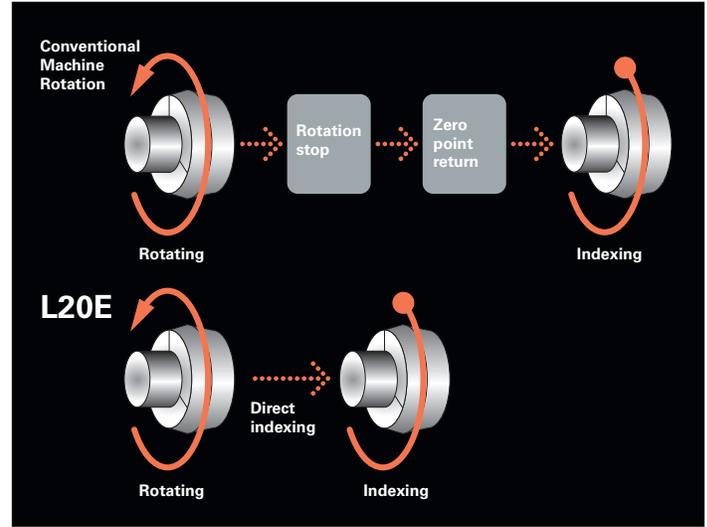
Tool Overlap Function

For front machining, the L20E is equipped with an independently controlled gang tool holder and opposed tool holder. "Cincom Control" positions the next tool holder while previous tool holder retracts.



Direct Spindle Indexing

The direct spindle indexing function significantly reduces spindle indexing time. The spindle decelerates directly into the required index position, eliminating the time taken to stop, reference and index.

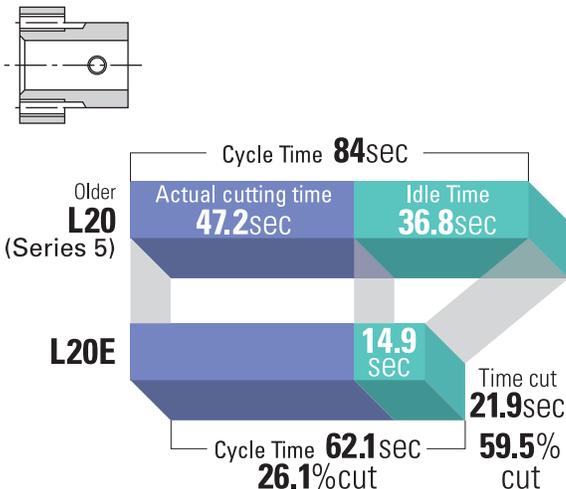


Cycle Time Comparison

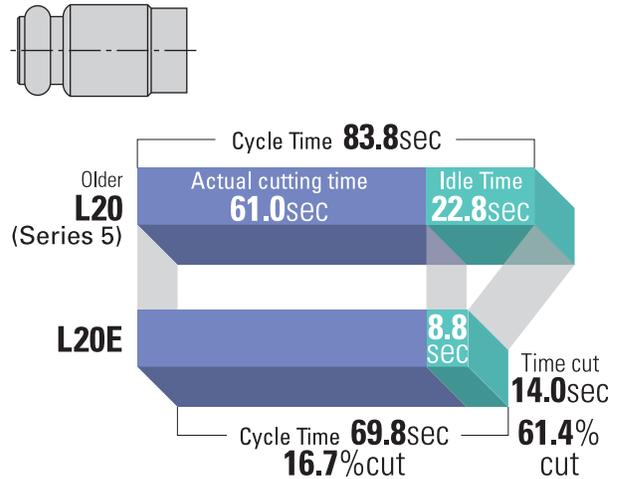
Compared with earlier generations of the L Series, the L20E delivers substantial improvements in productivity. Under the same cutting conditions of spindle speed and feed rate, Citizen's Cincom Control in conjunction with increased rapid feed rate has reduced cycle time significantly. Why not compare the greatly reduced cost per part of the L20E with your current machine? The L20E will offer additional advantages of faster set-up and lower maintenance costs.

* Actual cutting time indicates the time required to machine a workpiece in a cutting mode such as the G1, G2 and G3 mode.

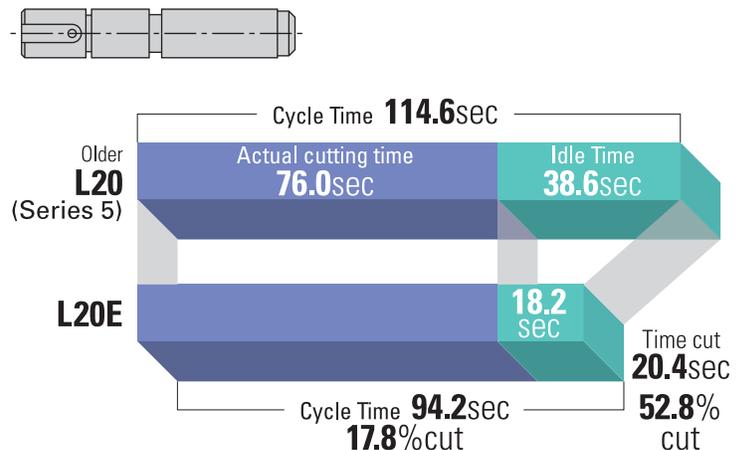
Sample work 1



Sample work 2



Sample work 3



Strong, Fast & Flexible

The L20E Type IX provides additional versatility with its back rotary tool drive unit

Enhanced Tooling

A gang tool post that allows a wide variety of tooling and an opposing tool post that enables deep-hole drilling (up to 100 mm) are available.

Should your products require off-center drilling, milling or slitting on the end face during back machining, this machine is a perfect choice since it features the back rotary tool drive unit as standard. Parallel execution of front and back secondary machining can reduce cycle time.

Gang rotary tools
Spindle speed:
5,000 rpm (Max.)
4,000 rpm (Rating)
Motor: 1.0 kW

Front spindle
Max. spindle speed:
10,000 rpm
Motor: 2.2/3.7 kW
Max. machining length:
200mm/chucking

Back spindle
Max. spindle speed: 8,000 rpm
Motor: 0.75/1.5 kW

Back rotary tools
Spindle speed:
5,000 rpm (Max.)
4,000 rpm (Rating)
Motor: 0.75 kW

Cross-drilling spindle
GSC1010

Rotary tool unit
GSE3010

Cross-drilling spindle
GSC1210

2-ID sleeve holder
GDF508

3-tools front & back
end face drilling spindle
GSE3207

3-tool front deep
drilling holder
U124B

Cross-drilling spindle
GSC907

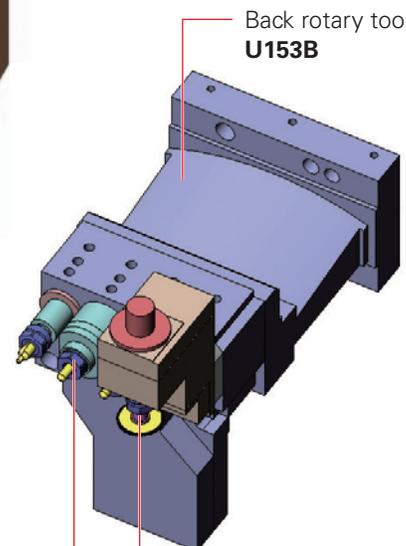
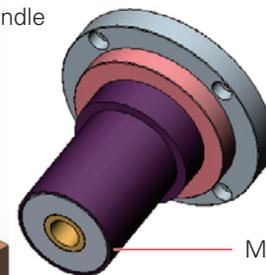
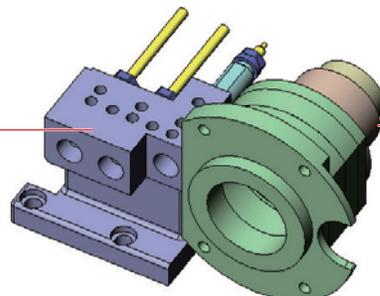
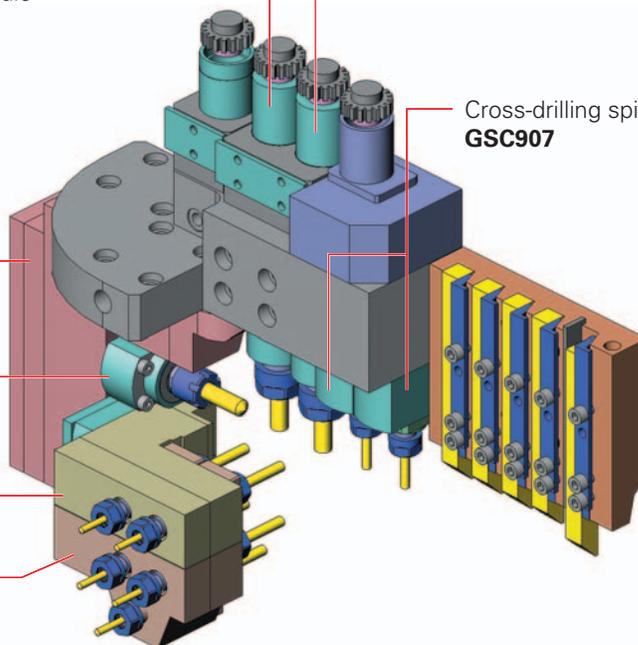
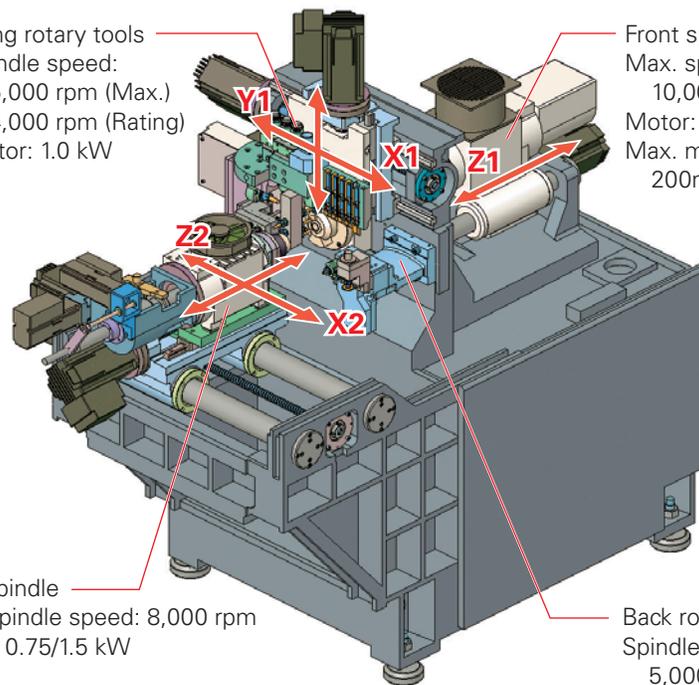
Main spindle

Back rotary tool unit
U153B

Back spindle

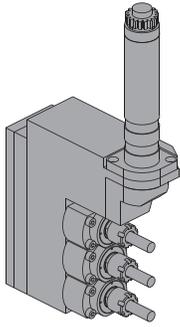
End face drilling spindle
GSE3307

Back slitting spindle
(optional)
GSS1330



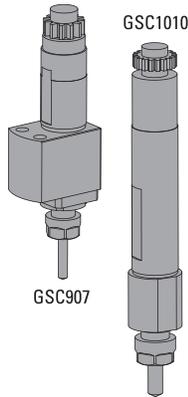
Outstanding Tooling Versatility of the New L20

Easy machining of complex shapes



GSE3010 Rotary tool unit

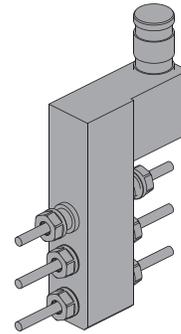
The mounting direction of this spindle can be switched for cross or end face machining, and can perform drilling on the outer diameter or drill on the end face. Shown with three GSC1210 rotary spindles.



GSC907/GSC1010 Cross-drilling spindle

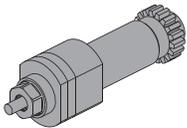
For performing drilling and milling on the outer diameter.

GSC907:
Max. collet dia.: \varnothing 7mm
Chuck model: ER11
GSC1010:
Max. collet dia.: \varnothing 10mm
Chuck model: ER16



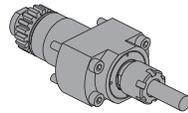
GDF507 3-sleeve holder

Up to three sleeves can be mounted in this holder for drilling on front/back end faces. The sleeve mounting hole diameter is \varnothing 19.05mm. This figure shows the holder installed with three double-ended sleeves.



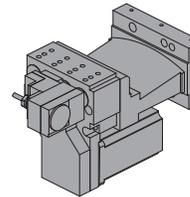
GSE3307 End face drilling spindle

This spindle is for drilling and milling on the back end face. It is mounted on the back tool post.
Max. collet dia.: \varnothing 7mm
Chuck model: ER11



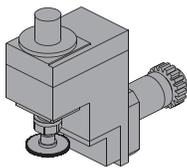
GSC1210 Cross-drilling spindle

This spindle (to be mounted on GSE3010) is used for drilling and milling on the outer diameter.
Max. collet dia.: \varnothing 10mm
Chuck model: ER16



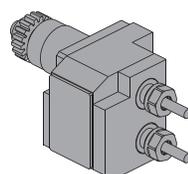
GSS1330 Back slitting spindle (mounted in cross direction)

GSS1330 performs cross machining on the workpiece on back spindle. Note: occupies 3 positions of U153B



GSS1330 Back slitting spindle

Mounted on back tool post, this spindle is used for back slitting.
Max. cutter dia.: \varnothing 30mm
Max. collet dia.: \varnothing 7mm
Chuck model: ER11



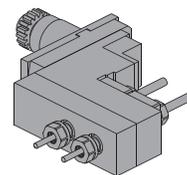
GSC1307 2-tool cross-drilling spindle

This spindle, designed for drilling and milling on the outer diameter, is mounted on GSE3010.
Max. collet dia.: \varnothing 7mm
Chuck model: ER11



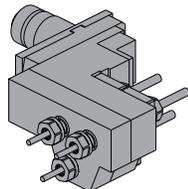
BTW-L1000 Thread whirling unit

Thread whirling is the most efficient way to produce difficult OD threads by providing a solution with faster cycles. Helix angle: \pm 25 degrees



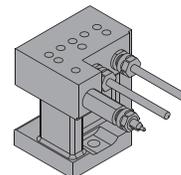
GSE3107 2-tool both end face drilling spindle

This spindle performs drilling or milling on the front and back end face (to be mounted on GSE3010).
Max. collet dia.: \varnothing 7mm
Chuck model: ER11



GSE3207 Front 3-tool back 2-tool end face drilling spindle

Use for drilling or milling on the front and back end face. This spindle is mounted on GSE3010.
Max. collet dia.: \varnothing 7mm
Chuck model: ER11



U124B 3-tool both-end face drilling spindle

This is for performing front drilling. Up to three \varnothing 19.05mm diameter sleeves can be mounted. It is possible to 100mm depth drilling.
Efficient tool length: 75mm (1 tool), 100mm (2 tools)

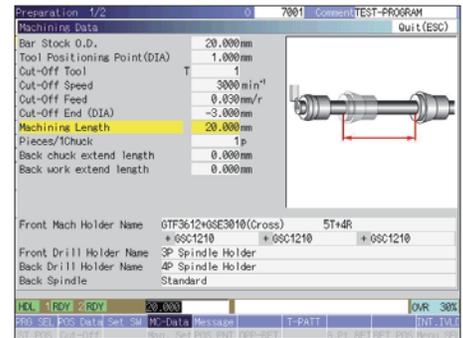
Convenient, Real Time Operation

User friendly design displays the screens that are needed, when they are needed



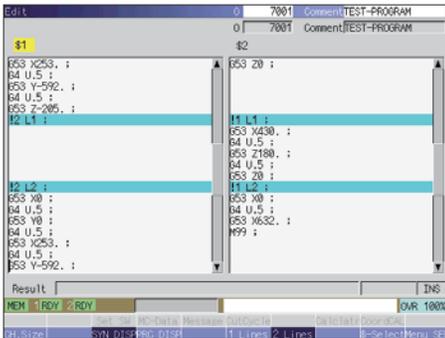
Hi-speed NC Installed

Because the latest CNC unit is utilized, the start-up and screen switching times are drastically reduced compared to other machines with similar functions. This feature provides a stress-free operating experience.



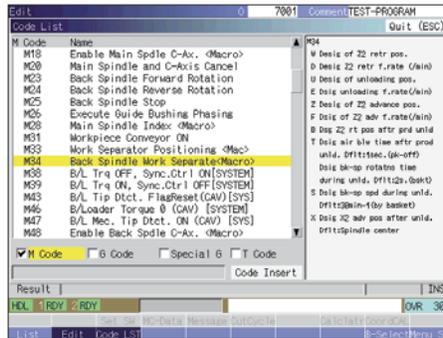
Easy to Understand Illustrations

An illustration is displayed for each item, so that it can be immediately visualized (the screen displaying the machining data).



Program Editing

Easy to understand program editing can be performed by switching between the synchronized displays for two axis control groups, and copying and pasting between programs including MDI.



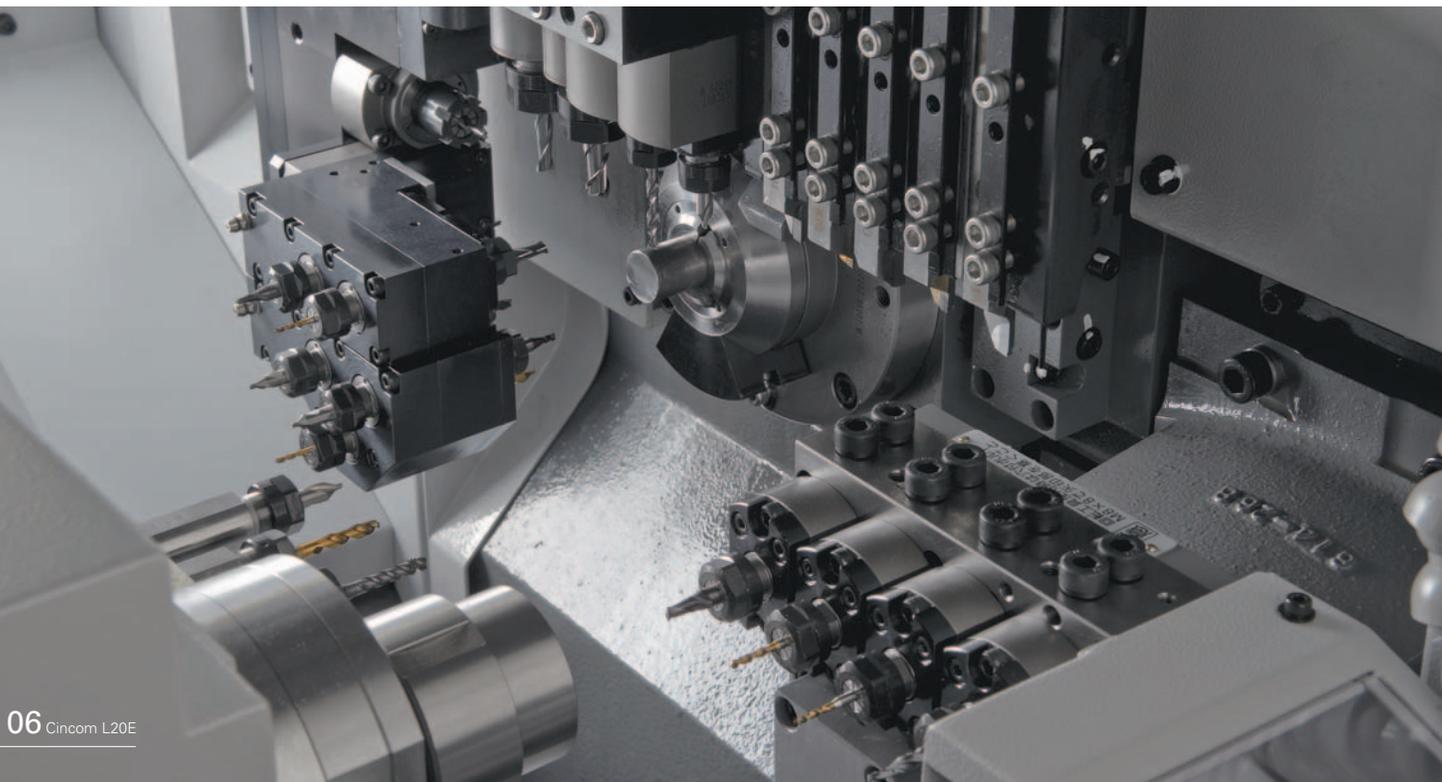
Code List Display

Another aid in programming is a list of G and M codes accompanied by pictorial explanations of their purpose.



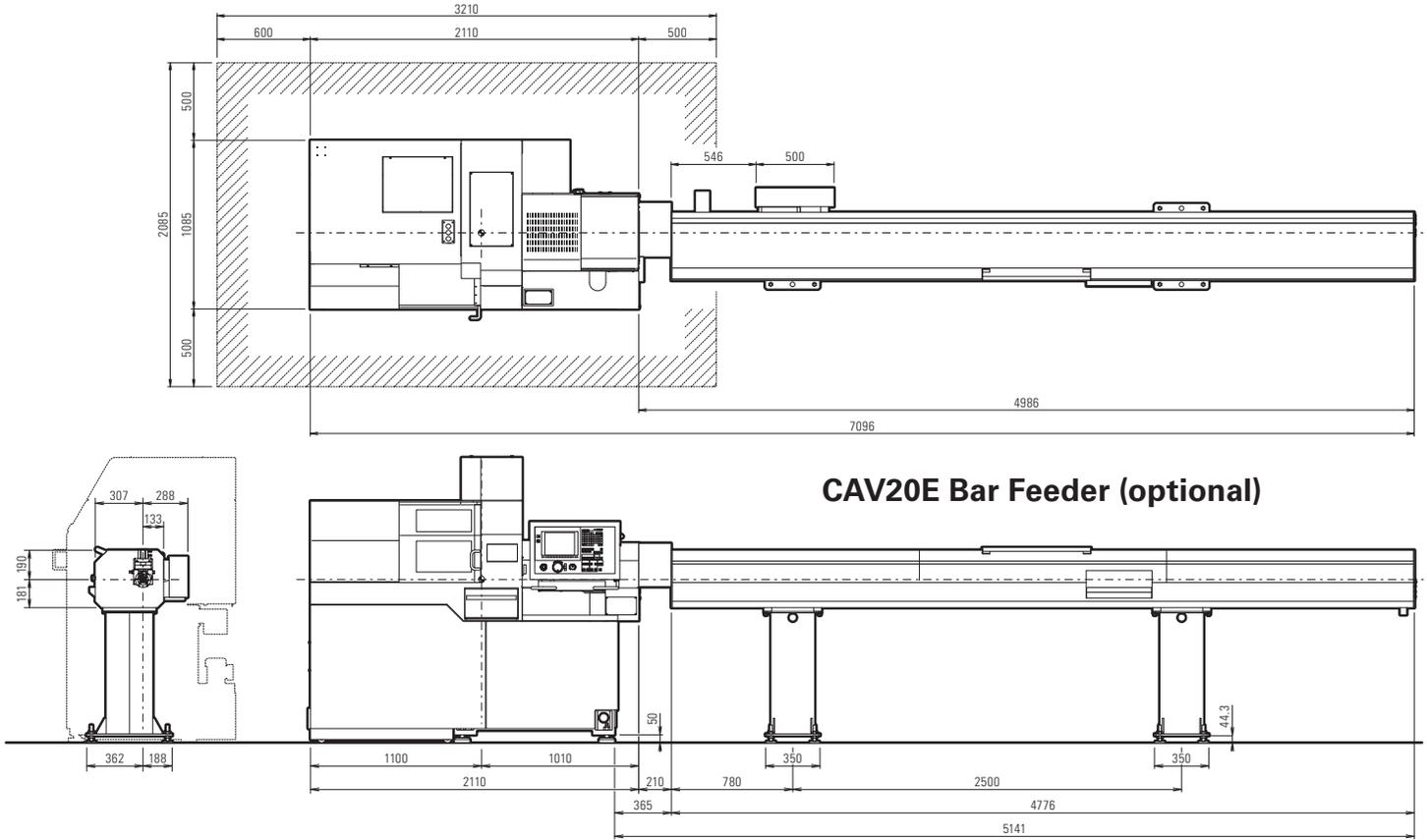
On-machine Program Check Function

This function allows program operation to be run forward or backward, and program editing and continuation of operation after a temporary stop. It is an effective aid to smooth programming. It also has a high speed program check function.

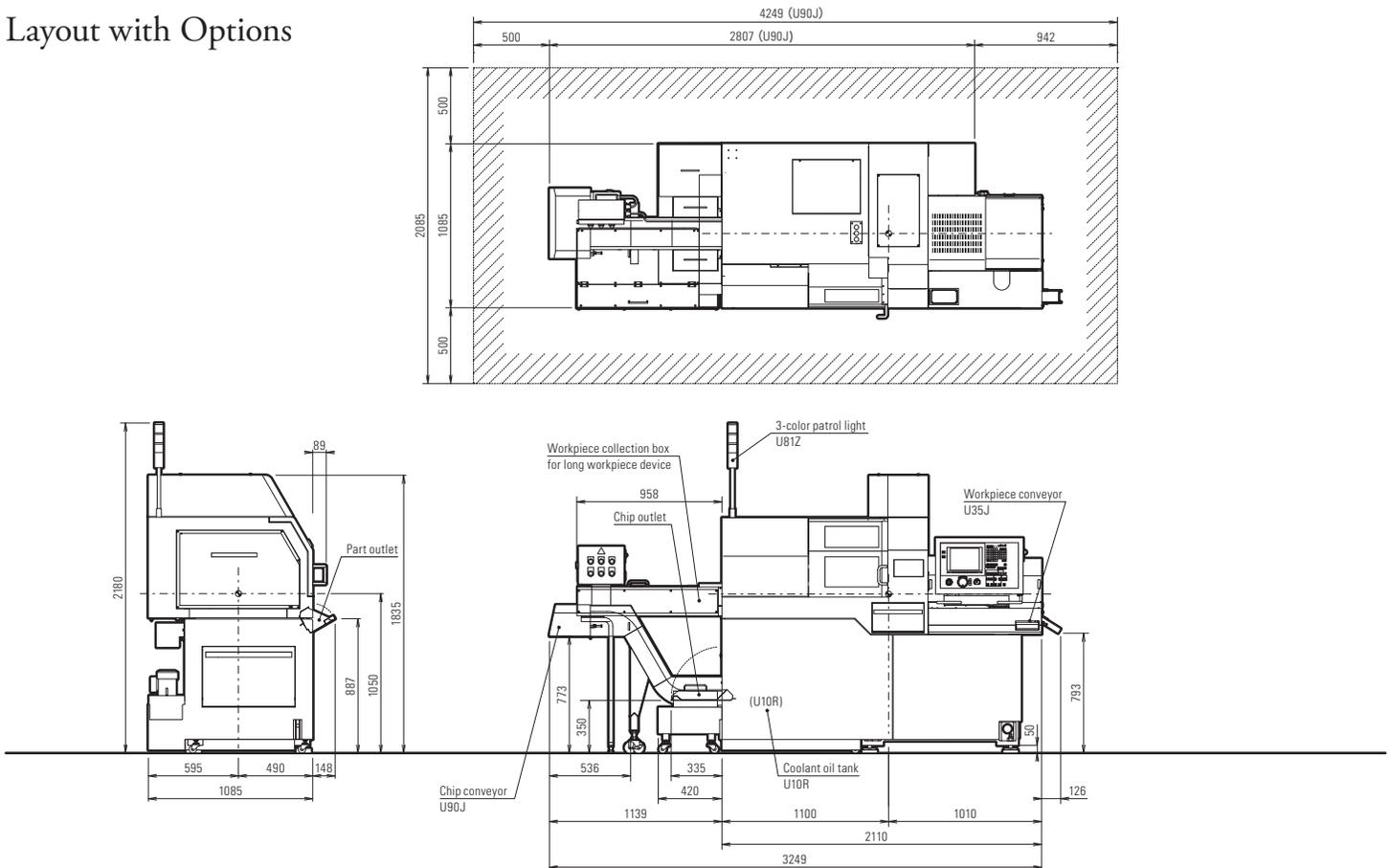


Machine Layout

Standard Layout



Layout with Options



Machine Specifications

Item	L20E IX
Maximum machining diameter (D)	∅20 mm
Maximum machining length (L)	200 mm/1 chucking
Maximum front drilling diameter	∅10 mm
Maximum front tapping diameter (tap, die)	M8
Spindle through-hole diameter	∅24 mm
Main spindle speed	10,000 rpm
Maximum drilling diameter for the gang rotary tool	∅8 mm
Maximum tapping diameter for the gang rotary tool	M6
Spindle speed of the gang rotary tool (rating)	5,000 rpm (4,000 rpm)
Maximum chuck diameter of the back spindle	∅20 mm
Max. protrusion length of back spindle workpiece	30 mm
Maximum protrusion length	80 mm
Back spindle speed	8,000 rpm
Maximum drilling diameter for back tool post rotary tool	∅5 mm
Maximum tapping diameter for back tool post rotary tool	M4
Spindle speed of back tool post rotary tool (rating)	5,000 rpm (4,000 rpm)
Number of tools to be mounted	Max. 32
Turning tools on the gang tool post	5
Live tool on the gang tool post	7 Modular stations
Front ID tool post (stationary)	3
Live tool on back tool post	4
Tool size	
Tool (gang tool post)	1/2", 5/8" (T01 only)
Sleeve	3/4" diameter shank
Chuck and Bushing	
Main spindle collet chuck	TF25
Back spindle collet chuck	TF25
Rotary tool collet chuck	ER11, ER16
Chuck for drill sleeves	ER11, ER16
Guide bushing	TD25NS
Rapid feed rate	
All axes	32 m/min
Motors	
Spindle drive	2.2/3.7 kW
Gang tool post rotary tool drive	1.0 kW
Back spindle drive	0.75/1.5 kW
Back tool post rotary tool drive	0.75 kW
Coolant oil	0.4 kW
Lubricating oil	0.003 kW
Center height	1050 mm
Input power capacity	8 kVA
Air pressure and air flow rate for pneumatic devices	0.5 MPa • 60 NI/min
Weight	2200 kg

Main standard accessories

Main spindle chucking device
Workpiece separator
Rotary guide bushing drive device
Lubrication device (with level sensor)
Rotary guide bushing device
Back spindle chucking device
Coolant device (with level sensor)
Rotary tool spindle device for gang tool post
Back rotary tool spindle device
Door switch/Door lock
Work light

Optional accessories

Fixed guide bushing device
Chip conveyor
Coolant flow-rate detecting device
Signal lamp
Cut-off tool breakage detector
Long workpiece device
Workpiece conveyor

Standard NC functions

NC unit dedicated to CINCOM L series
8.4 inch color LCD
Product counter display: up to 8 digits
Operation time display
Nose R compensation function
Preparation function
3D interference check function
Corner chamfering rounding function
On-machine program check function
Main spindle speed change detection function
Back spindle speed change detection function
Automatic power off function
Program work area 160 m
Thread cutting canned cycle
Continuous threading cycle
Multiple repetitive cycle
Main spindle C axis function
Back spindle C axis function
Canned cycle for drilling
Main spindle rigid tapping function
Tool spindle rigid tapping function
Back spindle rigid tapping function
Spindle synchronization control function
Milling interpolation function
User macro
Helical interpolation function
Tool Life Management I
Tool Life Management II
Sub-inch command
Circular threading cycle
External Memory Running

Optional NC functions

Program work area 320 m, 600 m
Tool offset pairs (80)
Network I/O function

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