

CITIZEN

Cincom



Preface

Dear Readers,

Citizen Machinery Europe GmbH has successfully been selling Swiss type lathes and fixed head automatic lathes of the brands Cincom and Miyano all over Germany and in large parts of Europe for many decades. With our 3 locations in Esslingen, Villingendorf and Neuss, we are always personally at your disposal and always in close vicinity throughout Germany to answer your questions regarding sales and other issues. In all service matters, we are there for you in whole of Europe.

Under the Cincom brand, we sell Swiss-type lathes which demonstrate their full power and performance when machining long workpieces and small diameters.

The Miyano brand measures up to all challenges when turning short workpieces in fixed-headstock applications. The machines distinguish themselves by high productivity, quality and precision and grant excellent results in diameter ranges of up to 80 mm.

Our path-breaking LFV Technology as well as laser integration have revolutionized the cutting process. We will continue to work hard on developing new innovations and provide optimum solutions to our customers. With future-oriented products, we look forward to stepping into the future together with you.

Markus Reissig
General Manager Citizen

R04

Cincom's answer for machining ultra-small-diameter precision components.

The acclaimed R-series of automatic lathes dedicated to small-diameter machining has evolved.

For machining watch parts, probe/connector pins, medical parts and other ultra-small-diameter components, we have completely revised the machine design – in pursuit of 'the ideal machine' with 'true-ease-of-use'. A 20,000 rpm spindle achieves the optimum cutting speed for the workpiece. This in combination with a tool post integrated with the guide bushing mount to suppress thermal displacement and feed axis drives combining linear and servo motors help to maximise accuracy, compactness and low energy consumption. Cincom's solution for machining ultra-small-diameter parts is here.

Advantages

Compact high-speed spindles 25% less weight and significantly more compact compared to previous models.

Ceramic bearings improve high-speed stability.

Space-saving design.

Reduced running cost.

0.94 m²

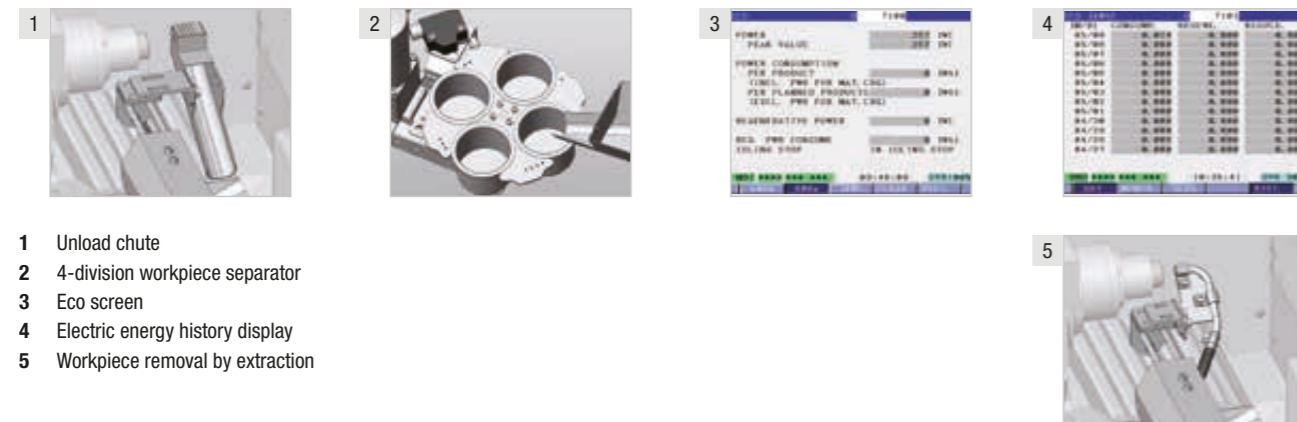


Workpiece examples

- 1 **Connector pin** (D = 1.5 mm, L = 10 mm)
Material: Copper
- 2 **Probe pin** (D = 0.4 mm, L = 5 mm)
Material: Brass
- 3 **Watch part** (D = 0.3 mm, L = 1.5 mm)
Material: Stainless steel



Standard

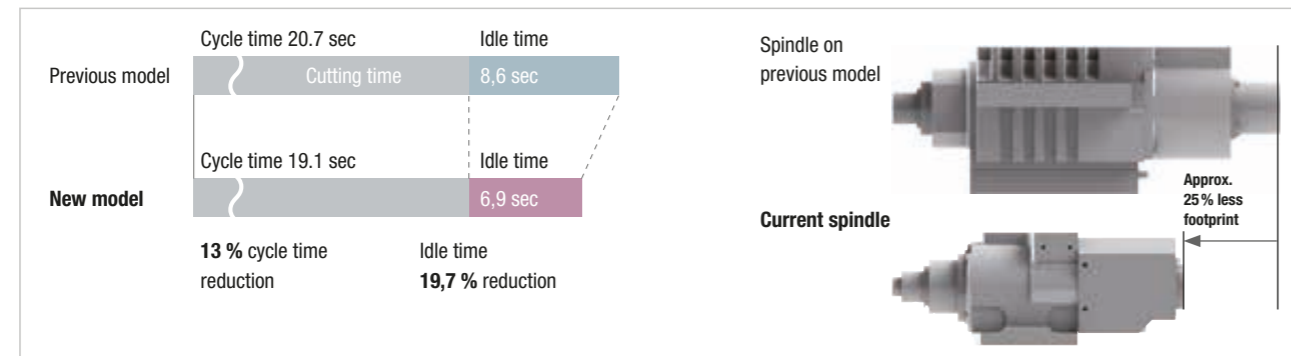


- 1 Unload chute
- 2 4-division workpiece separator
- 3 Eco screen
- 4 Electric energy history display
- 5 Workpiece removal by extraction

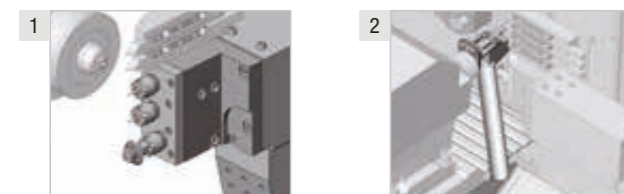
Compact high performance 20,000 rpm spindles

Spindles that are 25% more compact and lighter than previous models, have low vibration and fast acceleration/deceleration. Ceramic bearings improve high-speed stability. Both main and back spindles are identical and are oil cooled to reduce heat generation. Chucking force is programmable. Cycle times are further improved by latest NC system with 'Streamline' which drastically reduces processing time.

Beispiel



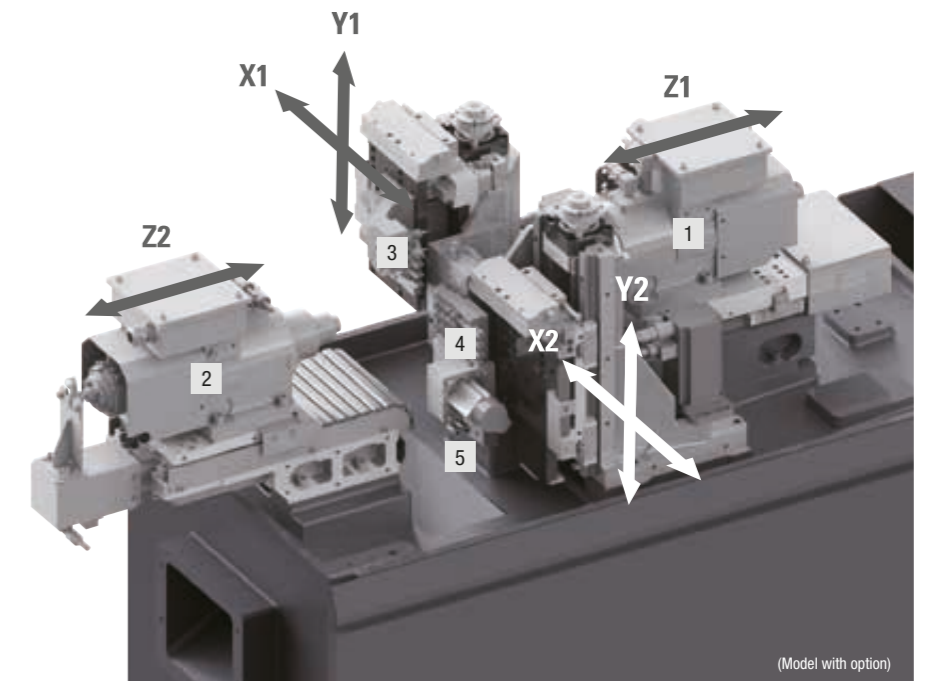
Options



- 1 Gang tool post for 3 rotary tools (U34B)
- 2 Front collection chute

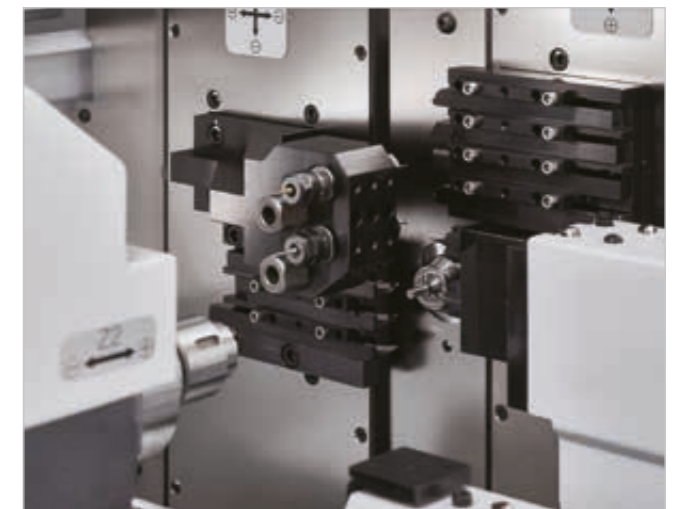
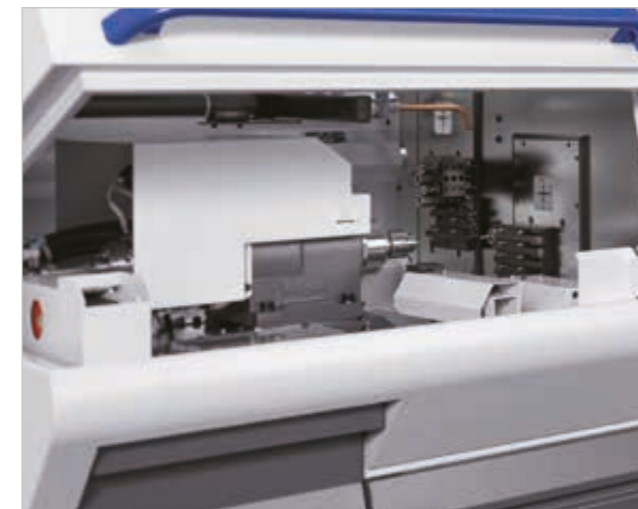
Kinematics

- 1 Main spindle: 1
- 2 Back spindle: 1
- 3 Drilling tools: 8
- 4 Turning tools: 7
- 5 Rotary tools: 2



(Model with option)

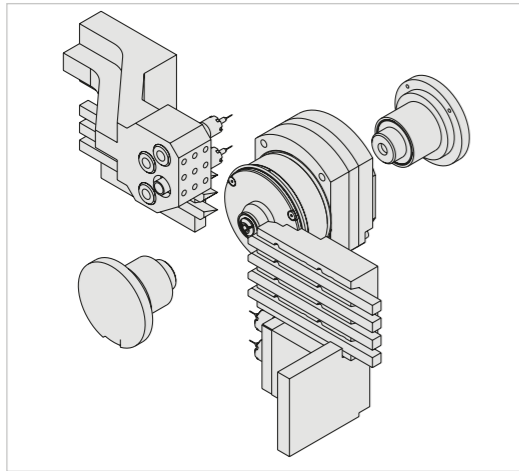
Working area



Cutting

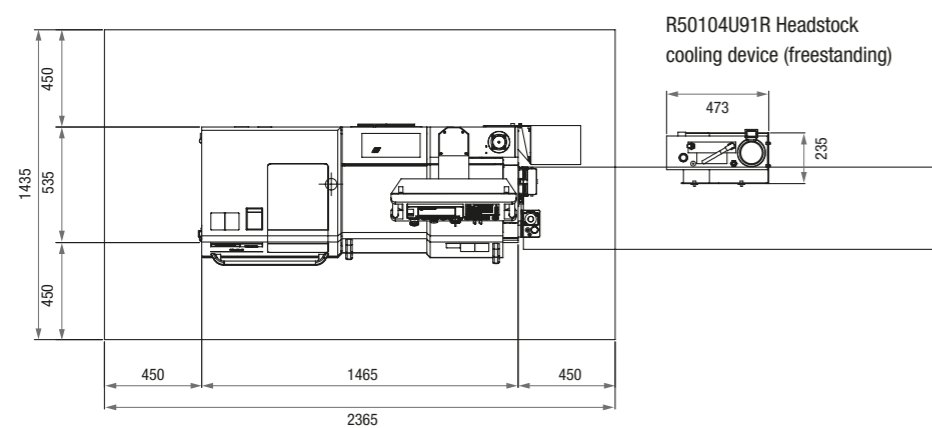
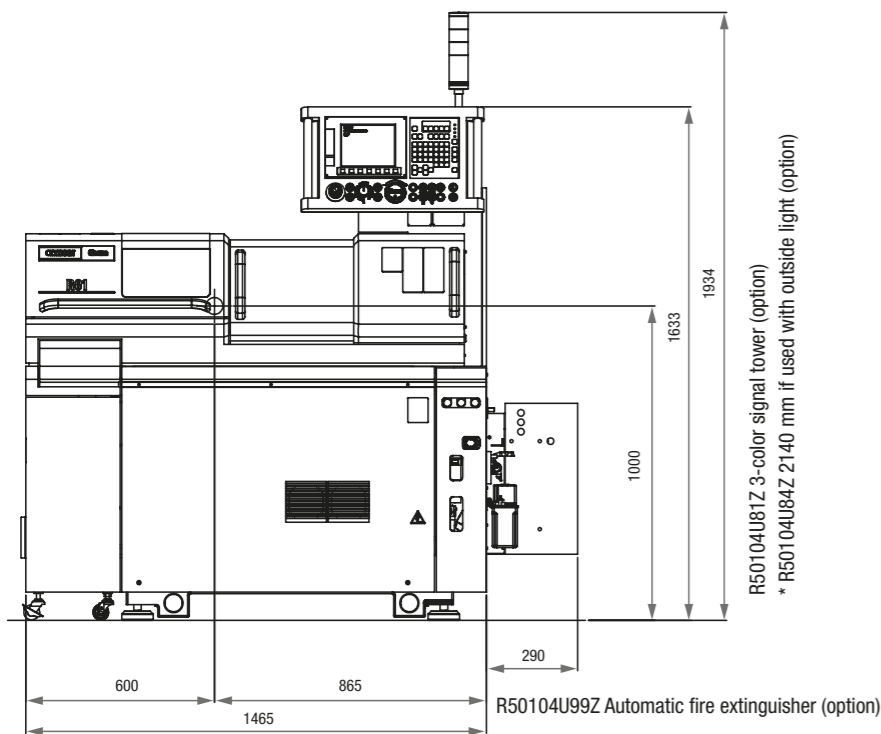
In comparison with previous models, the twin gang tool mounting capacity is increased by two turning tools and one drilling tool, thus improving the feasibility of tool layout. The rotary tools with significantly increased rigidity adopt ER11 size chucks. With the tool shift amount changed to 2 mm, material deflection is suppressed. The guide bushing unit is now available as rotary type thus expanding the machining range.

Axis configuration

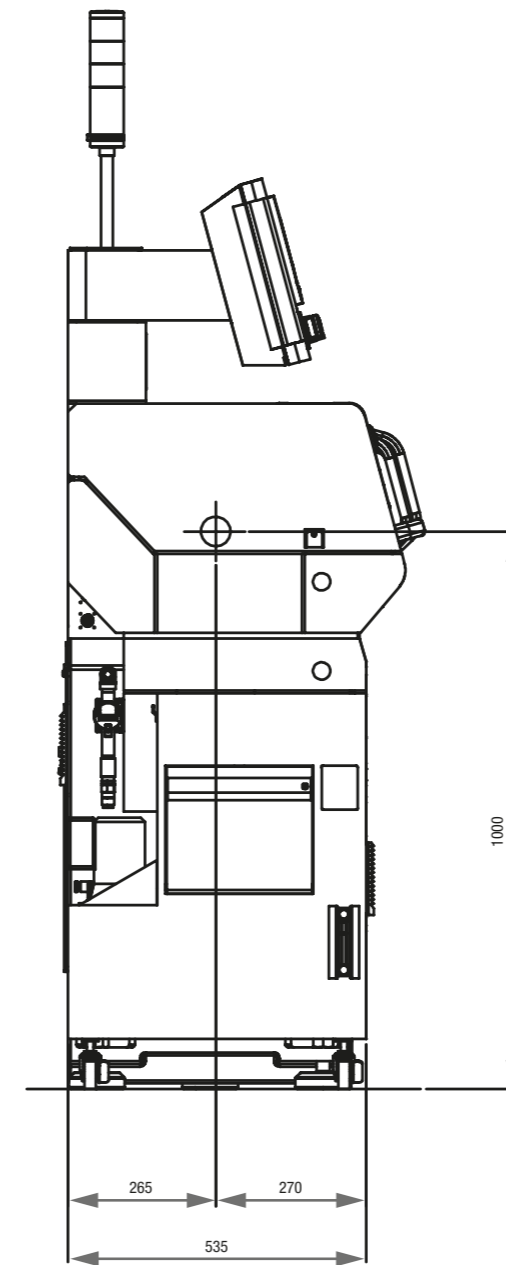


Number of tools
 4 drilling tools
 3+4 turning tools
 2 rotary tools

Floor plan



Floor plan



Machine specification

Item	R04 Type VI (R04-5F6)
Max. machining diameter (D)	Ø 4 mm
Max. machining length (L)	
Fixed guide bushing	40 mm
Rotary guide bush	30 mm
Max. front machining drilling diameter	Ø 3 mm
Max. tapping diameter	M3 (cutting tap)
Spindle through-hole diameter	Ø 10 mm
Spindle speed	Max. 20,000 rpm
Max. chuck diameter of the back spindle	Ø 1 mm / Ø 4 mm
Max. workpiece protrusion length from the back spindle	10 mm
Maximum collectable part length	20 mm / 40 mm
Max. drilling diameter in the back machining process	Ø 3 mm
Max. tapping diameter in the back machining process	M3
Back spindle speed	Max. 20,000 rpm
Rotary tools on the gang tool post	
Max. drilling diameter	Ø 2 mm
Max. tapping diameter	M2
Spindle speed	Max. 8,000 rpm
Number of mountable tools	17
Revolving tool	7
Rotary tools on the gang tool post	2/3 (Option)
Front drilling tool	4
Back drilling tool	4
Tool size	
Tool (gang)	□ 8 mm
Sleeve	15.875 mm
Chucks / bushes	
Spindle collet chuck	
Back spindle collet chuck	101E
Rotary tool collet chuck	ER11
Chuck for drill sleeves	ER8, ER11
Guide bush	I351
Rapid feed rate	
All axes	30 m/min
Motor	
Spindle drive	0.5/0.75 kW
Rotary tool on the gang tool post	0.1 kW
Back spindle drive	0.5/0.75 kW
Coolant	0.06 kW
Lubrication	0.003 kW
Center height	1,000 mm
Rated power consumption	3.4 KVA
Full-load current (main breaker capacity)	10 A (20 A)
Pneumatic device Required pressure, Required flow rate	5 bar, 32 NL/min (At power ON) / 70 NL/min (In normal state) / 136 NL/min (During air blow)
Floor space	1,465 × 535 × 1,633 mm
Weight	1,100 kg

Main standard accessory devices
 Spindle chucking device, back spindle chucking device *Only for type VI, cooling unit, headstock, rotary tool spindle drive device of the gang tool post, coolant device (with level detector), lubricating device (with level detector), workpiece separator, longitudinally adjustable fixed guide bushing device, machine relocation detector

Special accessory devices / options
 Open/close guide bushing device, Knock-out jug for through-hole workpiece, suction-type workpiece separator, compact (4 division) workpiece separator, tool breakage detector, cut-off tool, Signal lamp, 3-color signal tower coolant flow rate detector, magnet-equipped filter

NC standard functions
 Axis feed overlap function, preprocessing function, in-machine tool set function, On-machine program check function, manual data input (MDI), manual feed function, background edit function, cycle time check function, automatic backlight turning-off function (power save function), input/output interface, door open detection function, door lock function, automatic power-off function, optional stop, memory protection function, interference check function, machine lock, chamfering ON / OFF, exact stop check, error detect ON / OFF, tool offset 16 pairs, subprogram call function, spindle speed fluctuation detection function, spindle constant surface speed control function, continuous thread cutting, thread cutting canned cycle, back spindle pick-off failure detection function, program storage capacity 40 m (16 kB), sub-micron command, spindle 15° indexing function, optional block skip, chamfering/corner rounding, multiple repetitive cycle for turning, canned cycle drilling, nose radius compensation

Special additional NC functions
 Spindle C-axis function, spindle synchronized tapping function, spindle synchronized control function. Only for type VI spindle 1° indexing function, back spindle synchronized tapping function, back spindle 1° indexing function. Only for type, back spindle C-axis function. Only for type VI, rotary tool synchronized tapping function, tool breakage detection program, cut-off tool, B code I/F, tool offset pairs 32 pairs, tool life management I, tool life management II, polygon machining function, program storage capacity 80 m (32 kB), variable lead thread cutting, program storage capacity 120 m (48 kB), optional block skip (9 sets), program storage capacity 160 m (64 kB), sub inch command, program storage capacity 320 m (128 kB), drawing dimensions direct input, program storage capacity 600 m (240 kB), network I/O function, program storage capacity 1280 m (512 kB)

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