

CITIZEN

Cincom



Preface

Dear Readers,

Citizen Machinery UK has successfully been selling Swiss type lathes and fixed head automatic lathes of the brands Cincom and Miyano all over the UK and Ireland and across Europe for almost 50 years. With our 2 locations; our Solutions Centre in Bushey and our Centre of Excellence in Brierley Hill, we are always personally at your disposal to answer your questions regarding sales and other challenges. In all service matters, Citizen is there for you in the whole of Europe.

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

The Miyano brand meets all the challenges when turning short workpieces in fixed headstock applications. The machines distinguish themselves through high productivity, superior quality & reliability and precision and guarantees excellent results in diameter ranges from 1 mm to 80 mm bar.

In addition we also cover the complex machining of billet work, forgings and near net shape parts.

Our technologies like programmable chip-breaking LFV as well as our laser integration has helped revolutionise the cutting process. We will continue to work hard for you on developing new innovations and to provide optimum solutions for your needs, both for new and existing customers. With future-oriented products, we look forward to growing together into the future.

A handwritten signature in blue ink that reads 'James'.

Edward James
Managing Director, Citizen Machinery UK



Highest flexibility, outstanding performance & efficiency, simple operation.

Cincom sliding head machines are synonymous for CNC automatic lathes. They feature maximum flexibility and are able to handle a wide variety of complex machining tasks.

The sliding head machines have specifically been designed for machining long workpieces and small diameters and use a guide bushing.

Some machine models can be operated without a guide bush (short rotation mode).

M32 V VIII		V: 8 axes VIII: 10 axes	6
M16 V VIII		V: 8 axes VIII: 10 axes	14
L32 VIII X XII		VIII: 5 axes X: 6 axes XII: 7 axes	20
L20 VIII X XII		VIII: 5 axes X: 6 axes XII: 7 axes	26
L12 VII X		VII: 5 axes X: 6 axes	32
A20 VII		VII: 5 axes	38
B12/16E VI		VI: 4 axes	44
R04 VI		VI: 6 axes	50
D25 VII VIII		VII: 9 axes VIII: 10 axes	56
MC20 III IV		III: 10 axes IV: 14 axes	62

M32

Ultimate Gang + Turret: The M32 is reborn.

Additionally, structural analysis was performed to achieve a highly rigid design that provides an optimal balance between strength and weight on a small footprint to greatly improve the rigidity required during machining. The turret tooling has been completely redesigned with a conversion to single-drive for rotary tools and strengthening of the rotary tools motor. The gang tool post has been equipped with a type VIII B-axis spindle for contouring by use of five-axis control. The back tool post has been equipped with adjustable-angle type VIII spindles to provide complex machining in combination with the Y axis. Improved back machining improves the degree of freedom in machining process allocation. A 5.5/7.5 kW high-output spindle motor has been adopted for main and back spindles. You can switch between use and non-use of guide bushes for compatibility with 38-mm oversize specifications.

Advantages

Large variety of tools for the machining of complex parts.

Innovative turret with single drive for rotary tools

Gang tool post with up to five controlled axes, including a B axis

Reduced cycle times hand in hand with reduced power consumption.

Tool holder for back machining with angle-adjustable triple spindles.



4.19 m²



Workpiece example

- 1 **Name** Drill holder (dental medicine)
Material Stainless steel
- 2 **Name** Sample part for the trade fair
Material Eco Brass
- 3 **Name** Profile cutter for indexable inserts
Material 16MnCr5
- 4 **Name** Sample part for the trade fair
Material 16MnCr5



Standard



- 1 **New:** HMI (Human Machine Interface) operating panel
- 2 **Memory card function + USB**
- 3 **Ability to use as a guide bushing type or guide bushing-less type by switching between them**
The guide bushing can be fitted and removed in a quick and simple operation. The machine can be used as an automatic lathe with two roles in a single machine: as a regular guide bushing type automatic lathe when machining long thin workpieces, and as a guide bushing-less automatic lathe when using cold drawn material and to leave short remnant bars.

What is more...
Network connection
RS232
Parts catcher unit
Spindle cooling for main and back spindle

Options



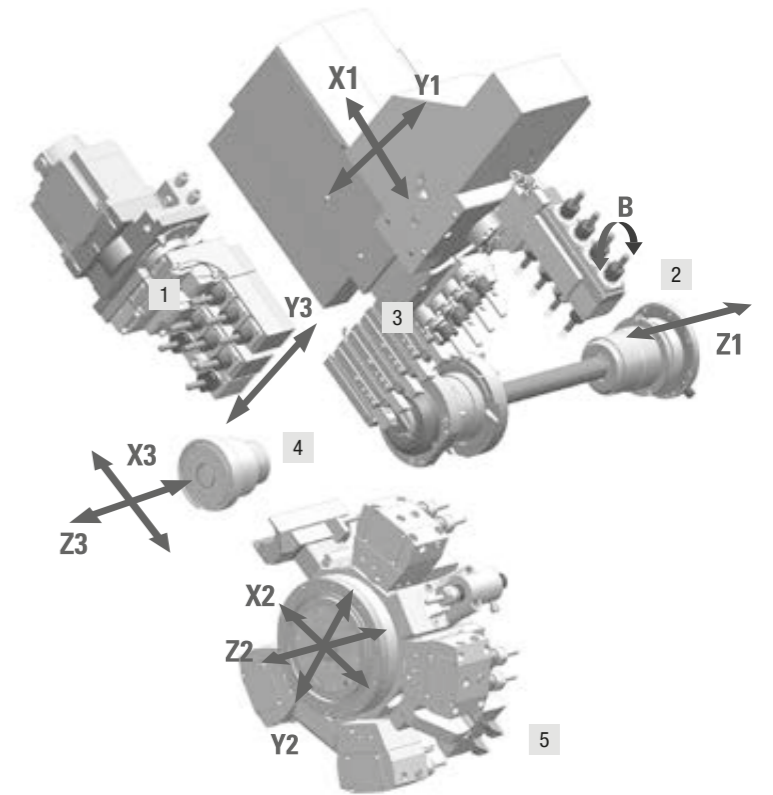
- 1 **Chip conveyor**
- 2 **Workpiece conveyor unit**
A workpiece conveyor can be equipped to facilitate the efficient mass production of workpieces. The cover over the unloading route can be removed easily, giving good maintainability too.
- 3 **Barfeeder**

What is more...
LFV technology as an option



Layout

- 1 **Back tool post**
Type V: 5 fixed tool stations,
Type VIII: Max. of 9 tool stations, modular
(including 3 adjustable-angle drills type VIII)
 - 2 **Main spindle**
Main spindle speed: 8,000 rpm
Max. machining length: 320 mm/1 chucking (GB)
 - 3 **Gang tool post**
Type V: 5 turning tools 5 to 8 rotary tools
Type VIII: 5 turning tools 8 cross drills (including 4 B-axis drills)
4 backside drills
 - 4 **Back spindle**
Spindle speed: 8,000 rpm,
- Turret tool post**
Number of turret stations: 10
with single drive
- [X1 / Z1 / X3 / Z3 axis with LFM technology]



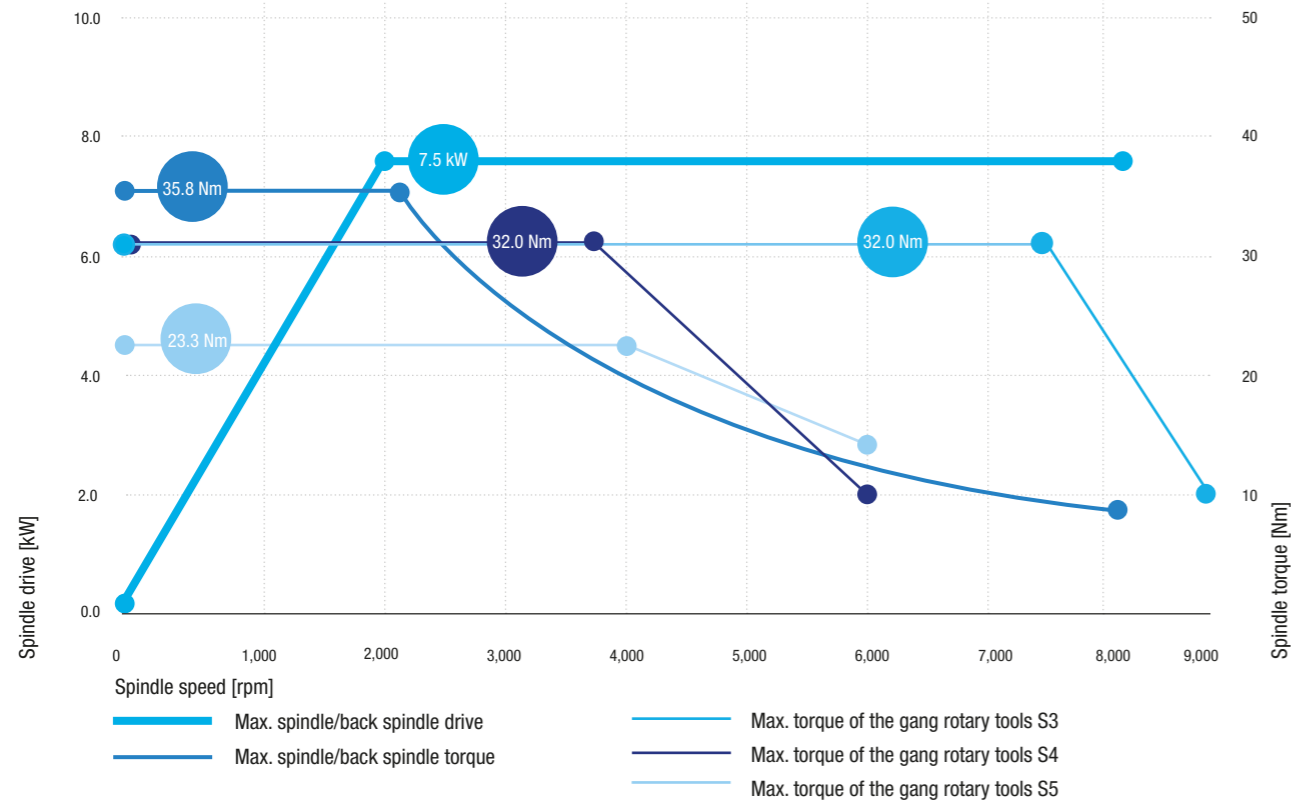
Type VIII (Model with option)

Working area

- 1 **Higher torque and output for all motors**
The spindle motor employs a 5.5/7.5 kW high-power motor that is common to the main and back spindle. Making the basic configuration of the back spindle the same as the main spindle has given more freedom in the allocation of front and back processes. In addition, the servomotors on the Z axis and all other feed axes have now been increased to 1.5 kW, answering the requirements of customers who wish to perform machining that needs power in the Z-axis feed.
- 2 **B-axis machining for more complex shapes, back face inclined machining**
The gang tool post is equipped with a programmable B axis (back face 45°, front face 105°) in type VIII. The back tool post is equipped with a 3-tool adjustable angle type spindle in type VII and VIII, for more complex machining.
- 3 **New single-drive turret**
A single drive that only drives the selected rotary tool has been adopted for the 2.2-kW/22-Nm high-output high-torque milling turret. This prevents backlash and vibration to provide longer tooling service life.

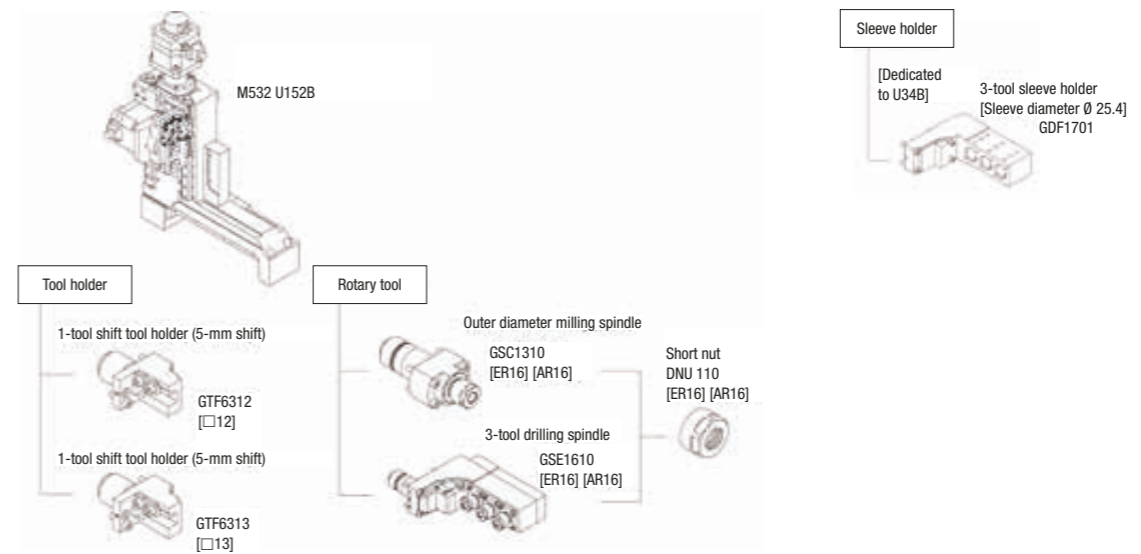


Performance diagram

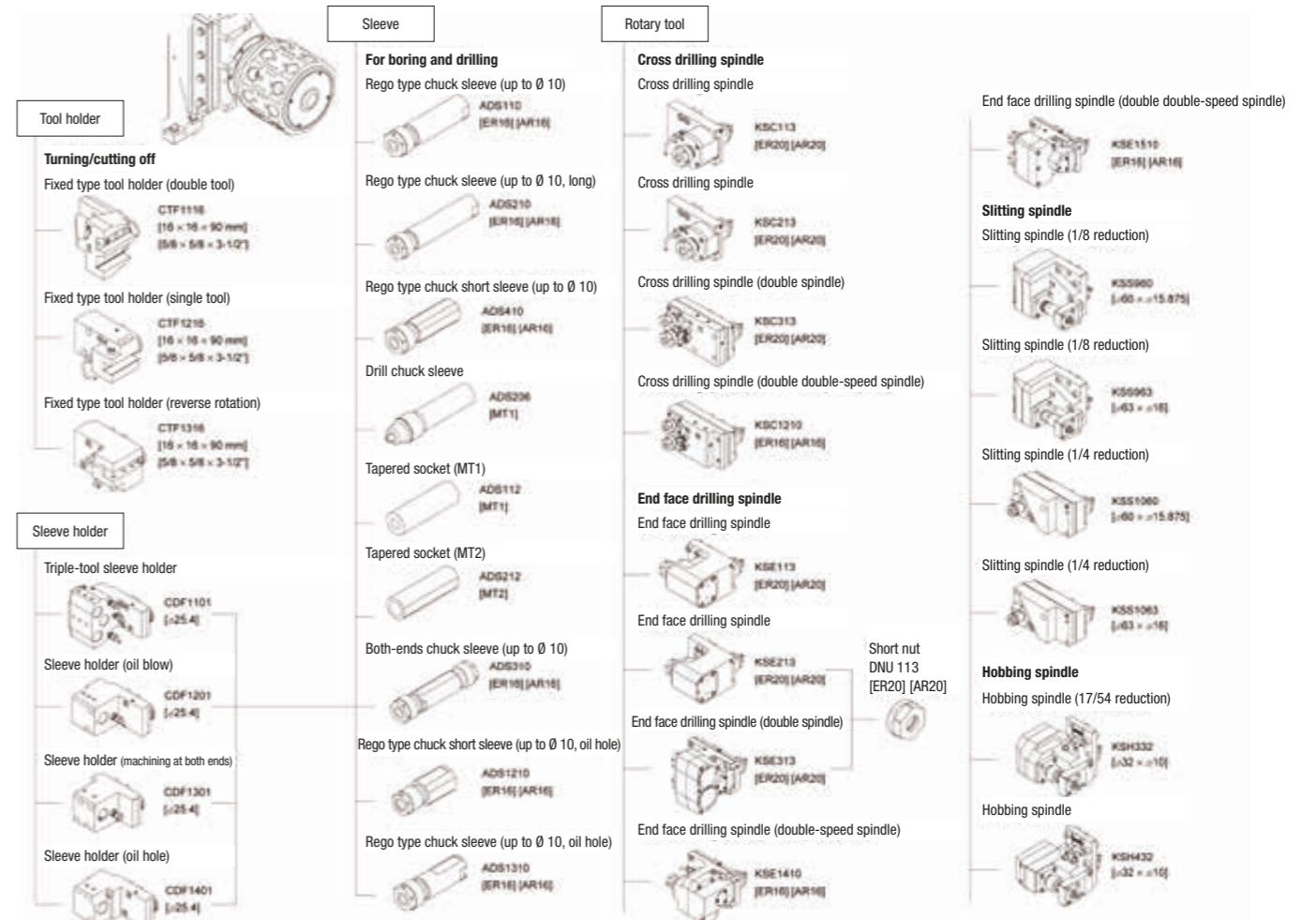


Tooling System

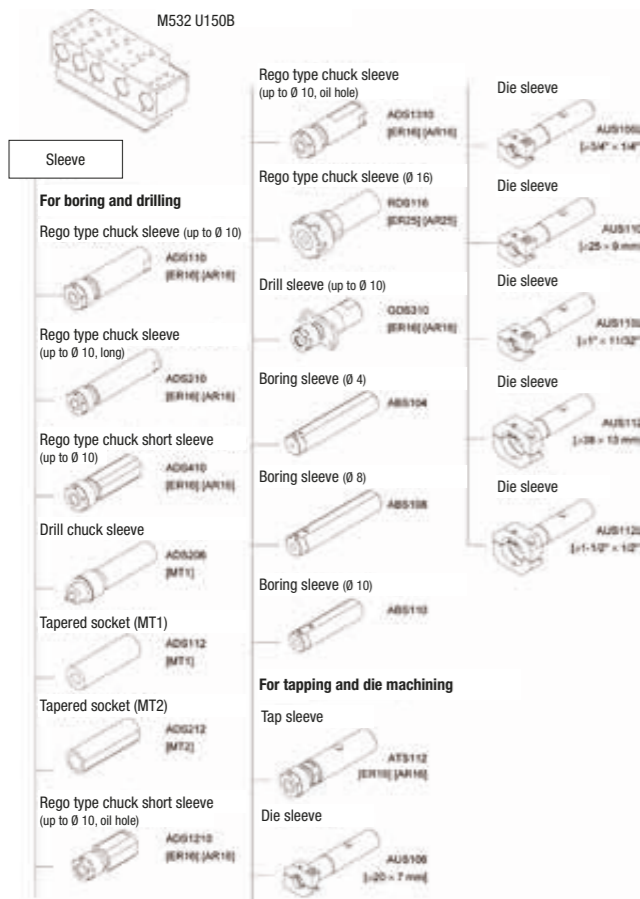
For gang tool post



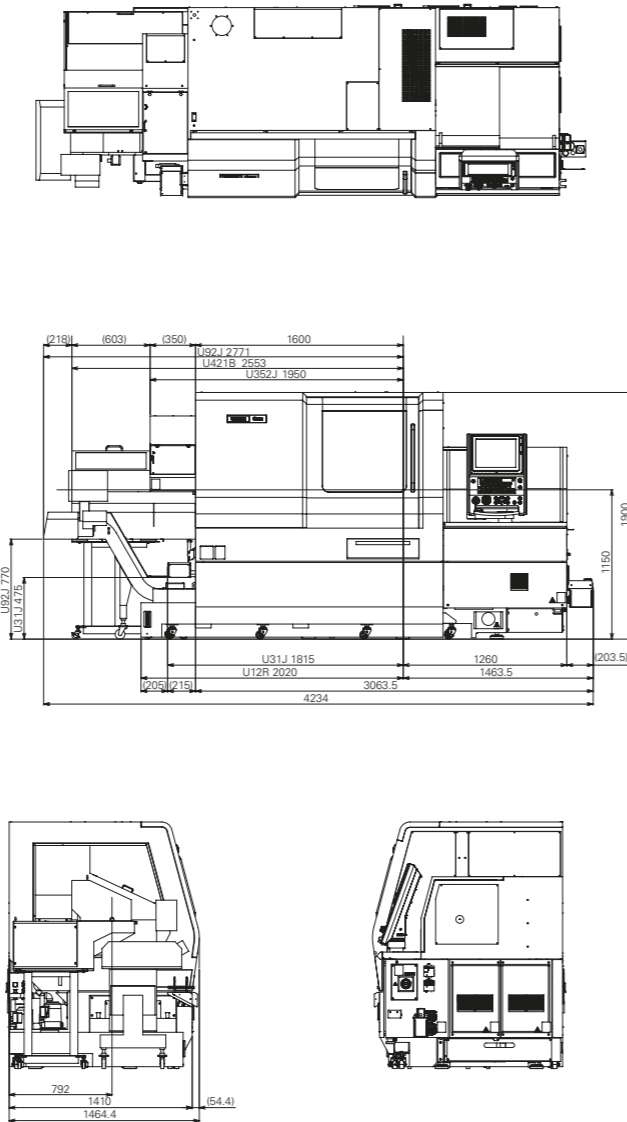
Turret



Tooling System



Floor plan



Machine specification

Item	M32-V (M32-5M5)	M32-VIII (M32-5M8)
Max. machining diameter (D)	Ø 32 mm / Ø 38 mm (Option)	Ø 32 mm / Ø 38 mm (Option)
Max. machining length (L)	GB: 320 mm / GBL: 80 mm	GB: 320 mm / GBL: 80 mm
Max. main spindle drilling diameter	Ø 12 mm	Ø 12 mm
Max. tapping diameter for the main spindle	M12 (Cutting tap)	M12 (Cutting tap)
Main spindle speed	max. 8,000 rpm	max. 8,000 rpm
Max. chuck diameter of the back spindle	Ø 32 mm / Ø 38 mm (Option)	Ø 32 mm / Ø 38 mm (Option)
Max. drilling diameter for the back spindle	Ø 12 mm	Ø 12 mm
Max. tapping diameter for the back spindle	M12 (Cutting tap)	M12 (Cutting tap)
Max. workpiece protrusion length from the back spindle	145 mm (Standard recovery unit)	145 mm (Standard recovery unit)
Back spindle speed	max. 8,000 rpm	max. 8,000 rpm
Gang rotary tools		
Max. drilling diameter	Ø 8 mm	Ø 8 mm
Max. tapping diameter	M8 (Cutting tap)	M8 (Cutting tap)
Main spindle speed	max. 9,000 rpm	max. 9,000 rpm
Turret rotary tools		
Max. drilling diameter	Ø 12 mm	Ø 12 mm
Max. tapping diameter	M12 (Cutting tap)	M12 (Cutting tap)
Main spindle speed	max. 6,000 rpm	max. 6,000 rpm
Rotary tools in holder for back machining		
Max. drilling diameter	Ø 8 mm	Ø 8 mm
Max. tapping diameter	M6 (Cutting tap)	M6 (Cutting tap)
Main spindle speed	max. 6,000 rpm	max. 6,000 rpm
Number of tools		
Turning tools	25 to 27 + α	30 to 27 + α
Cross drills	5	5
Gang tool post backside drills	5 to 7	8 (including B axis)
Number of turret stations	max. 4	4 (including B axis)
Back tool post drills	10	10
	5	max. 9
Tool size		
Turning tools	□ 16 mm	□ 16 mm
Sleeve diameter	Ø 25.4 mm	Ø 25.4 mm
Chuck and bush		
Main spindle collet chuck	F37	F37
Back spindle collet chuck	F37	F37
Guide bushes	T229	T229
Rapid feed rate		
X1, Y1, Z1, Z2, X3, Z3	32 m/min	32 m/min
Y3	-	32 m/min
X2	18 m/min	18 m/min
Y2	12 m/min	12 m/min
Motors		
Main spindle drive	5.5/7.5 kW	5.5/7.5 kW
Back spindle drive	5.5/7.5 kW	5.5/7.5 kW
Gang rotary tool drive	2.2 kW	2.2 kW
Turret rotary tool drive	2.2 kW	2.2 kW
Back rotary tool drive		1.0 kW
Pneumatic unit: Required pressure and required flowrate	0.5 MPa at 110 NL/min. (with power ON)	0.5 MPa at 110 NL/min. (with power ON)
Power supply voltage	AC200V ± 10%	AC200V ± 10%
Machine dimensions		
Dimensions	W 2,860 × D 1,465 × H 1,900 mm	W 2,860 × D 1,465 × H 1,900 mm
Weight	4,250 kg	4,300 kg
Standard Accessories		
Main spindle chucking unit, back spindle chucking unit, gang rotary tool drive unit, back rotary tool drive unit *Type VIII, rotary guide bushing unit, rotary guide bushing drive unit, coolant unit (with level detector), central lubricating oil supply unit (with level detector), air-driven knock-out device for back machining, air-driven workpiece separator, machine relocation detector, spindle cooling unit, door lock, in-machine lighting, knock-out jig for through-hole workpiece, product unloader, cut-off tool breakage detector, 3-color signal tower		
Special Accessories		
Long workpiece option, workpiece conveyor, chip conveyor, oil mist evacuation, high-pressure coolant unit, LFV technology		
NC standard functions		
CINCOM SYSTEM M830W (Mitsubishi Electric) *Type V, CINCOM SYSTEM M850W (Mitsubishi Electric) *Type VIII, 15-inch XGA touch panel, USB slot, program storage capacity: 160 m (Approx. 64 KB), Tool offset pairs: 99, product counter indication (up to 8 digits), B-axis control function *Type VIII, obstruction check, impact detection function, spindle speed change detector, constant peripheral speed control function (G96), automatic power-off function, back spindle 1° indexing function, on-machine program check function, nose radius compensation, geometric command function, spindle synchronized function, spindle C-axis function, milling interpolation function, back spindle chasing function, canned cycle for drilling, phase adjustment function, synchronized tapping, network I/O function, eco display		
Special NC functions		
Variable lead thread cutting, arc threading function, chamfering/corner R function, 3D chamfering function, canned cycle for composite turning, 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: 4800 m (1,920 KB), user-opened disk capacity of 100 MB, external memory program driving, submicron commands, user macros, helical interpolation function, inclined helical interpolation function, hob function, polygon function, inch command, RS232C connector		

M16

A high-end model covering Ø 16 mm.

The M16 type VIII features a B axis for rotary tools on the gang tool post. It can machine angled holes and complete shapes. The swivel angle of the B axis is 135° and it can be used in both front and back machining. The back tool post is equipped with a Y axis (type VIII) and up to 9 tools can be carried. But we have not just upped the number of controlled axes and the number of mountable tools. In addition to upping the rapid feed rate to 32 m/min and running high-speed calculation with the latest NC unit, the maximum rotational speeds of the front/back spindle and the rotary tools on the turret tool post have also been increased. By machining with the optimum conditions for small-diameter workpieces and small-diameter drills/end mills, high productivity can be achieved.

Advantages

High speed and extreme ease of maintenance lead to a significant increase in productivity.

32 m/min rapid feed rate and reduction of idle time by ca. 30%.

Optimum machining conditions for small complex parts thanks to high-speed rotation of front/back spindle.

Energy saving due to idling stop.

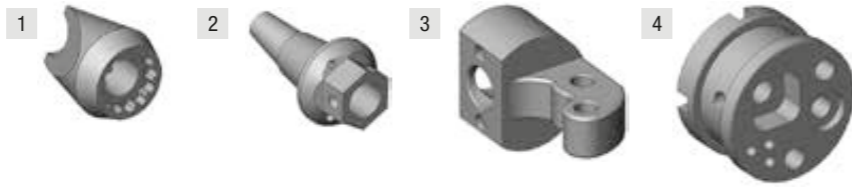
Turret with 10 stations.

3.20 m²



Workpiece examples

Name Example from medical or hydraulic branch
Material Titanium



Standard



- Eco screen:** The current power consumption are shown on the screen, along with the maximum power consumption value, the power consumption record, the cumulative power consumption, and the power regeneration (generation) status. Data can be output, too.
- Syntax check function:** The customer can check whether there are any syntax errors in the program before running it. And if an alarm occurs, the relevant block is highlighted.
- Product Collection:** Machined products are consigned to this receiver box through the turret-mounted basket. Products up to 125 mm length can be collected.
- Spindle cooler for main spindle**
- Product unloader (U35.J)**

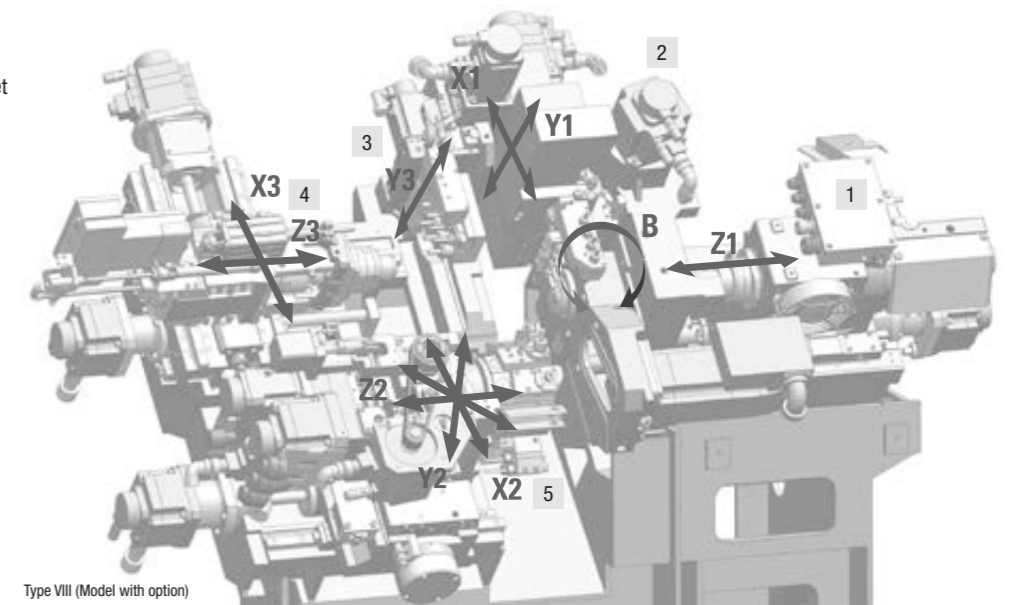
Options



- Chip conveyor
- Barfeeder
- Product receiver shelf of long workpiece device (U420B)

Layout

- Main spindle 12,500 rpm
Max. machining length: 200 mm / 1 chucking (with guide bush)
- Gang rotary tool 8,000 rpm
- Back rotary tool 8,000 rpm
- Back spindle 12,000 rpm
- Turret rotary tool 8,000 rpm 10 station turret



Working area

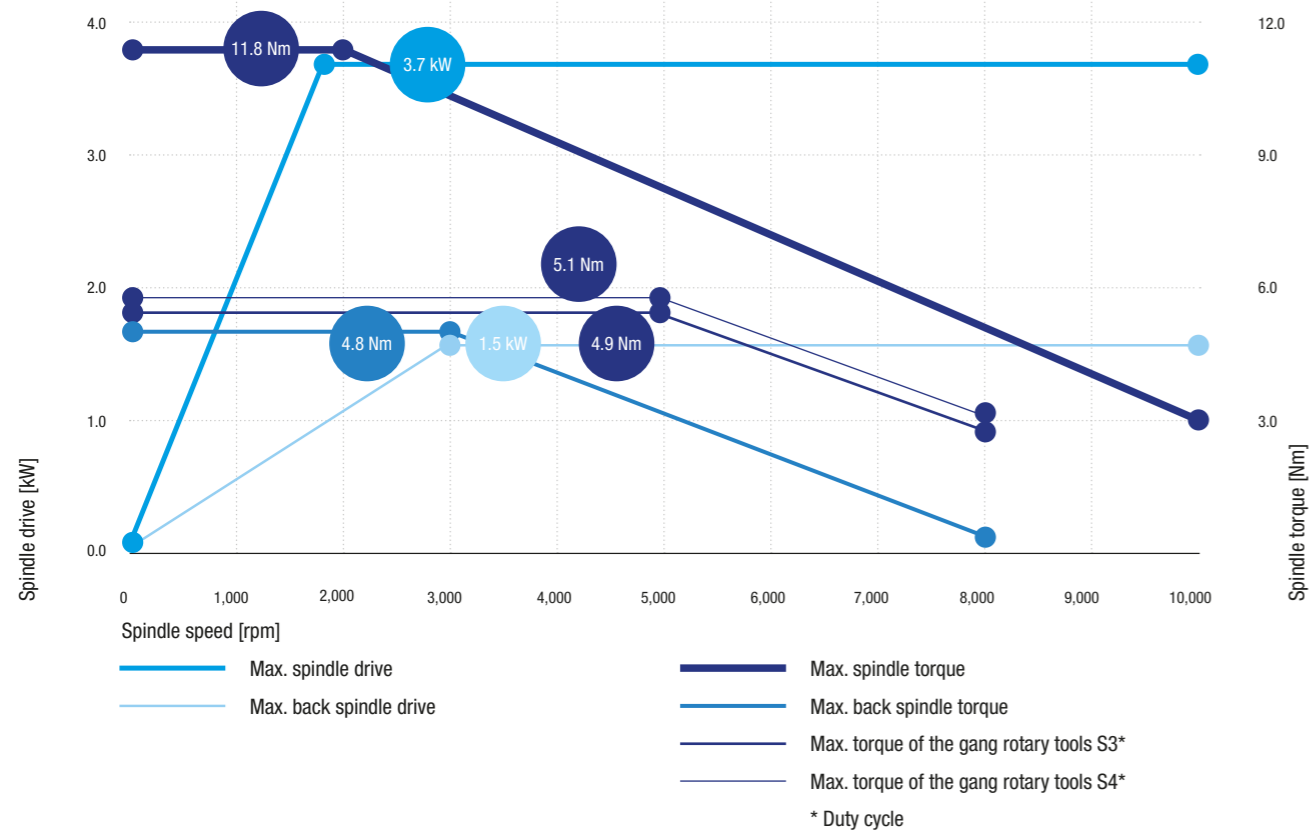


Example: Workpiece configuration

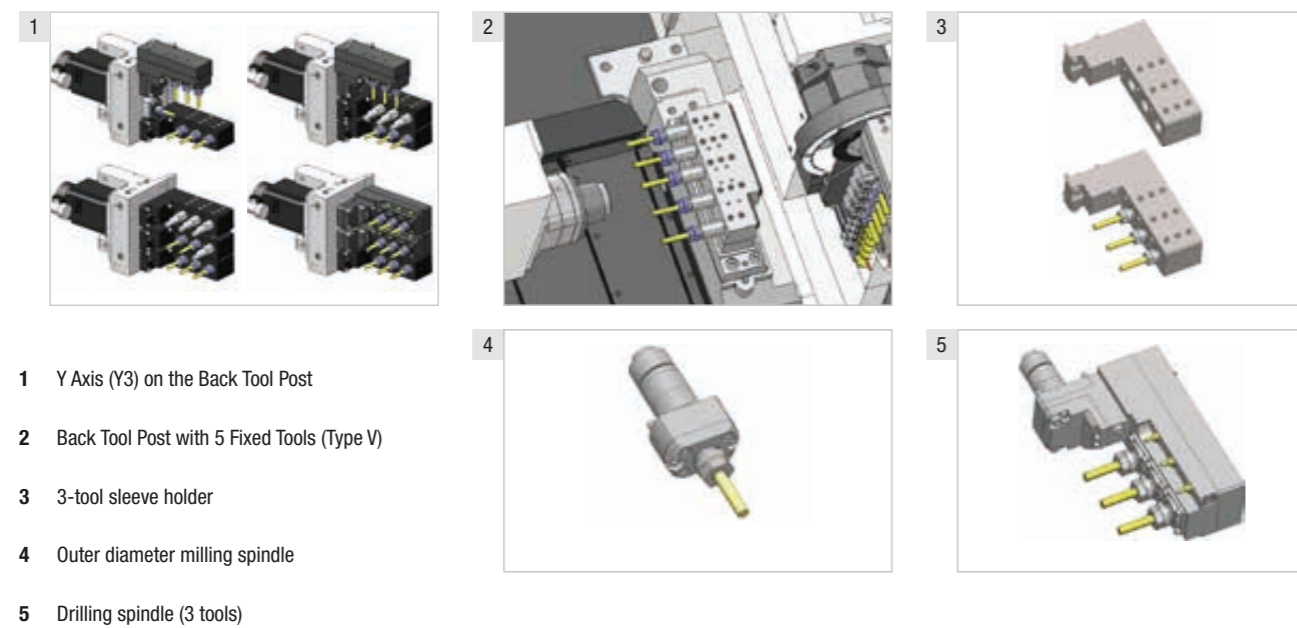
- On the M16 type VIII, the rotary tools on the gang tool post feature a B axis as standard, and four tools each can be mounted for back and front machining. The swivel angle has a range of 135°, from 90° to -45°, and the machine is capable of contouring using 4-axis control with the B axis used even in back machining.
- The turret has been adopted from the previous model. This ensures 100% compatibility of the tool posts. The extended stroke of the Z2 axis allows for simultaneous machining when combined with gang tool post and turret. Tool change is possible at any arbitrary position. This significantly shortens tool change times.
- The new tool post can accommodate 3 rows of 3 tools (two rows for rotary tools, one row for fixed tools). Up to 9 tools may be carried. The triple-drive posts may be used both at the gang tool post and the back tool post.



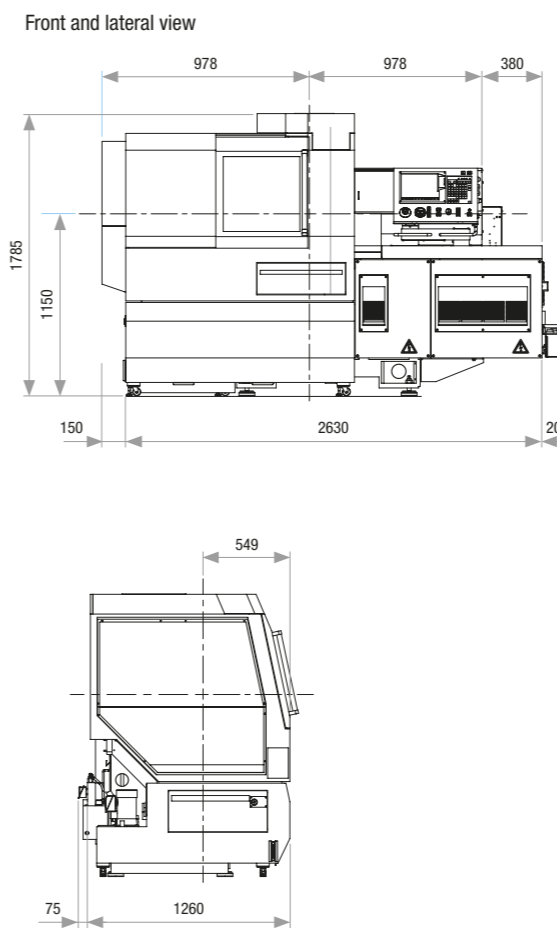
Performance diagram



Tooling System



Floor plan



Machine specification

Item	M16 V (M16-4M5)	M16 VIII (M16-4M8)
Max. machining diameter	Ø 16 mm	Ø 16 mm
Max. machining length/without rechucking	200 mm	200 mm
Max. main spindle drilling diameter	Ø 10 mm	Ø 10 mm
Max. tapping diameter for the main spindle	M8	M8
Spindle through-hole diameter	Ø 20 mm	Ø 20 mm
Main spindle speed	12,000 rpm	12,000 rpm
Max. chuck diameter of the back spindle	Ø 16 mm	Ø 16 mm
Max. drilling diameter for the back spindle	Ø 8 mm	Ø 8 mm
Max. tapping diameter for the back spindle	M6	M6
Back spindle speed	12,000 rpm	12,000 rpm
Gang tool post (rotary tools)		
Max. drilling diameter	Ø 5 mm	Ø 5 mm
Max. tapping diameter	M5	M5
Spindle speed for rotary tools	8,000 rpm	8,000 rpm
Turret (Rotary tools)		
Max. drilling diameter	Ø 5 mm	Ø 5 mm
Max. tapping diameter	M5	M5
Spindle speed for rotary tools	8,000 rpm	8,000 rpm
Rotary tools for back machining		
Max. drilling diameter	–	Ø 5 mm
Max. tapping diameter	–	M5
Spindle speed for rotary tools	–	8,000 rpm
Number of tools to be mounted		
Turning tools on the gang tool post	5	5
Rotary tools on the gang tool post	5 ~ 12	5 ~ 12
Turret	10 + α	10 + α
Tools		
Turning tools	□ 10 mm	□ 10 mm
Drill sleeve	Ø 19.05 mm	Ø 19.05 mm
Collet type (main and back spindle)	138E	138E
Guide bush	F605	F605
Rapid feed rate		
All axes (excluding X2, Y2 & B)	32 m/min	32 m/min
X2 axis	16 m/min	16 m/min
Y2 axis	8 m/min	8 m/min
Motors		
Motor spindle drive	2.2/3.7 kW	2.2/3.7 kW
Gang tool post rotary tool drive	0.69 kW	0.69 kW
Back spindle drive	0.75/1.5 kW	0.75/1.5 kW
Gang tool post rotary tool drive (turret)	0.69 kW	0.69 kW
Rotary tools in holder for back machining	–	0.75 kW
Machine dimensions		
Dimensions	W 2,780 × D 1,340 × H 1,790 mm	
Weight	2,900 kg	2,950 kg
Center height	1,150 mm	1,150 mm
Main standard accessories		
Collet chuck for main spindle, drive unit for guide bushing with synchronous drive, collet chuck for back spindle, back spindle, drive unit for cross driven spindle on linear carrier, drive unit for driven spindle on turret, drive unit for driven spindle backside, part ejector with servo motor, knock-out jug for through-hole workpieces, workpiece pick-off device (grripper), basket for workpiece pick-off device, pneumatic unit for spindle sealing, coolant tank, cooling system for rotary tools in gang tool post, warning light (tricolor), cut-off tool breakage control		
Special Accessories		
Long workpiece option, workpiece conveyor, chip conveyor, oil mist evacuation, high-pressure coolant unit		
NC standard functions		
Tool nose R compensation, Multiple repetitive cycles, Deep drilling cycle, Constant surface speed control, Corner chamfering / rounding function, Constant surface speed control for back spindle, User macro, Memory capacity: 160m/64k, External memory (PC card), Thread chasing at back spindle, Spindle speed monitoring, Main and back spindle synchronization, Milling interpolation, Synchronous thread cutting, Thread chasing cycle, Main spindle C axis, back spindle C axis, Geometrical function, Main spindle synchronous tapping, Back spindle synchronous tapping, Rotary tools synchronous tapping, Variable thread chasing cycle, Offset Y axis, B code function, Network function, JBS digital air control unit		
Special NC functions		
Tapping with overrun/underrun, Tool life management, RS232C interface, High-speed thread cutting, Optional block skip 9, Program skip for back machining, 3D chamfering function, Tool nose R compensation, Synchronous tapping with chamfer orientation, Multi-edge knocking, Hobbing, Helical milling interpolation, Circular thread milling		

L32

The successful Cincom L32, now even more versatile and flexible.

A best-selling machine with a legacy at Cincom, the next generation L32 is launched with 3 new models in modular design. Ranging from a 5-axis machine with excellent cost performance to a high-end machine equipped with B axis and back tool post Y axis. A wide range of modular tooling ensures that the new L32 is incredibly versatile and flexible to meet your specific current and future production demands.

Advantages

Machining many varied workpiece types – thanks to fast retooling and simple operation.

Modular tooling – versatile, reliable, powerful and highly productive.

Can be used as a guide bushing type or guide bushing-less type.

Available with LFV technology.

Excellent price/performance ratio.

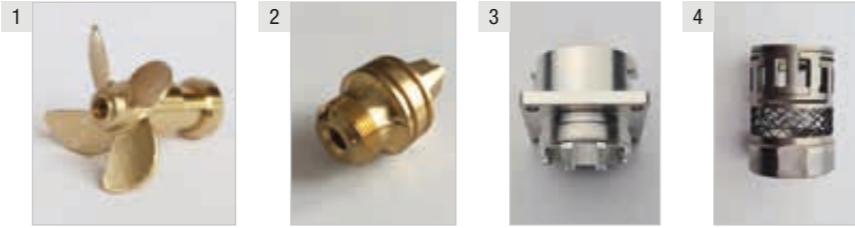
Highly flexible.

4.45 m²

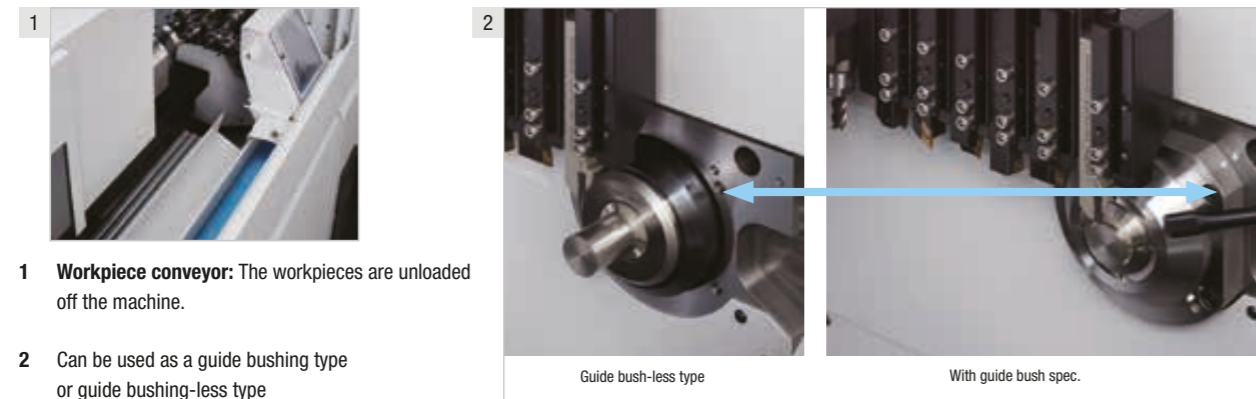


Workpiece examples

- Name** Turbine wheel
Material Brass
- Name** Example workpiece
Material Brass
- Name** Coupling housing for electric contacts
Material Aluminium
- Name** Sample part for trade fair
Material Construction steel

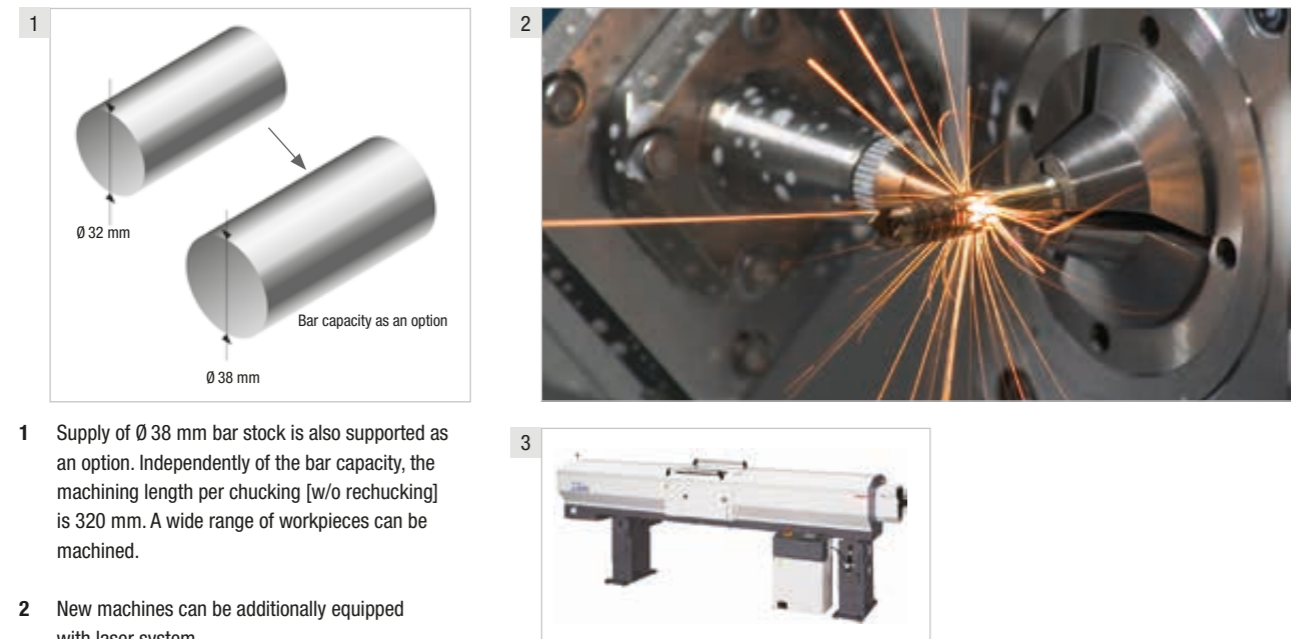


Standard



- Workpiece conveyor:** The workpieces are unloaded off the machine.
- Can be used as a guide bushing type or guide bushing-less type

Options



- Supply of $\varnothing 38$ mm bar stock is also supported as an option. Independently of the bar capacity, the machining length per chucking [w/o rechucking] is 320 mm. A wide range of workpieces can be machined.
- New machines can be additionally equipped with laser system.
- Barfeeder

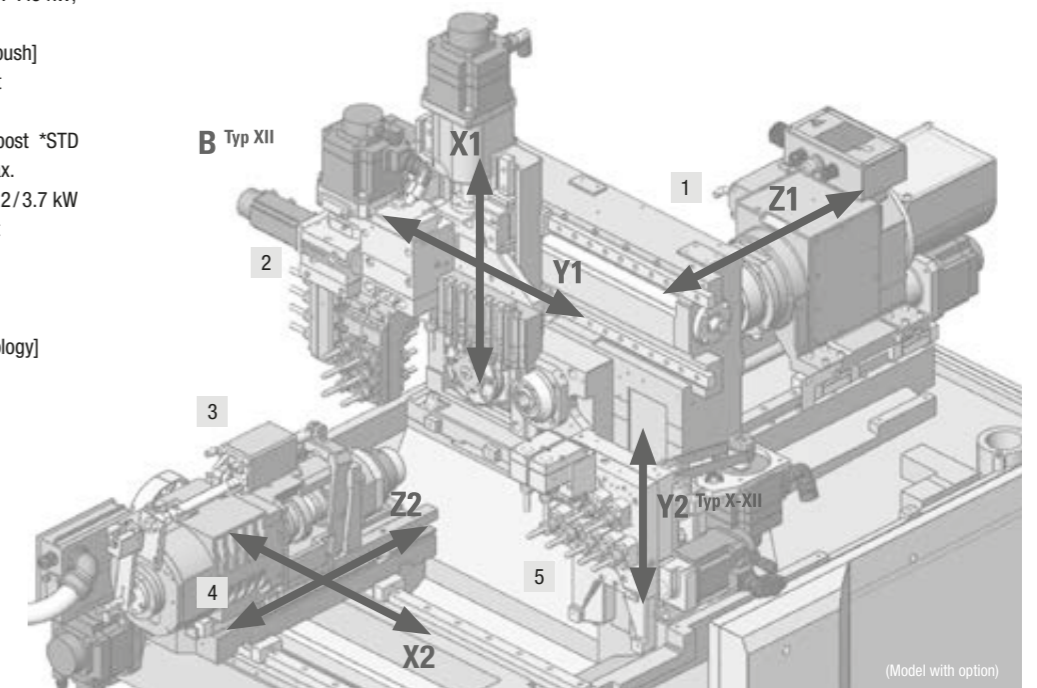
What is more...
LFV technology as an option



Layout

- Main spindle 8,000 rpm Motor: 3.7/7.5 kW;
Maximum machining length :
320 mm/1 chucking [with guide bush]
- Rotary tools on the gang tool post
6,000 rpm, max.
- Rotary tools on the opposite tool post *STD
for types X and XII 6,000 rpm, max.
- Back spindle 8,000 rpm Motor: 2.2/3.7 kW
- Rotary tools on the back tool post
6,000 rpm, max.

[X1 / Z1 / X2 / Z2 axis with LFV technology]



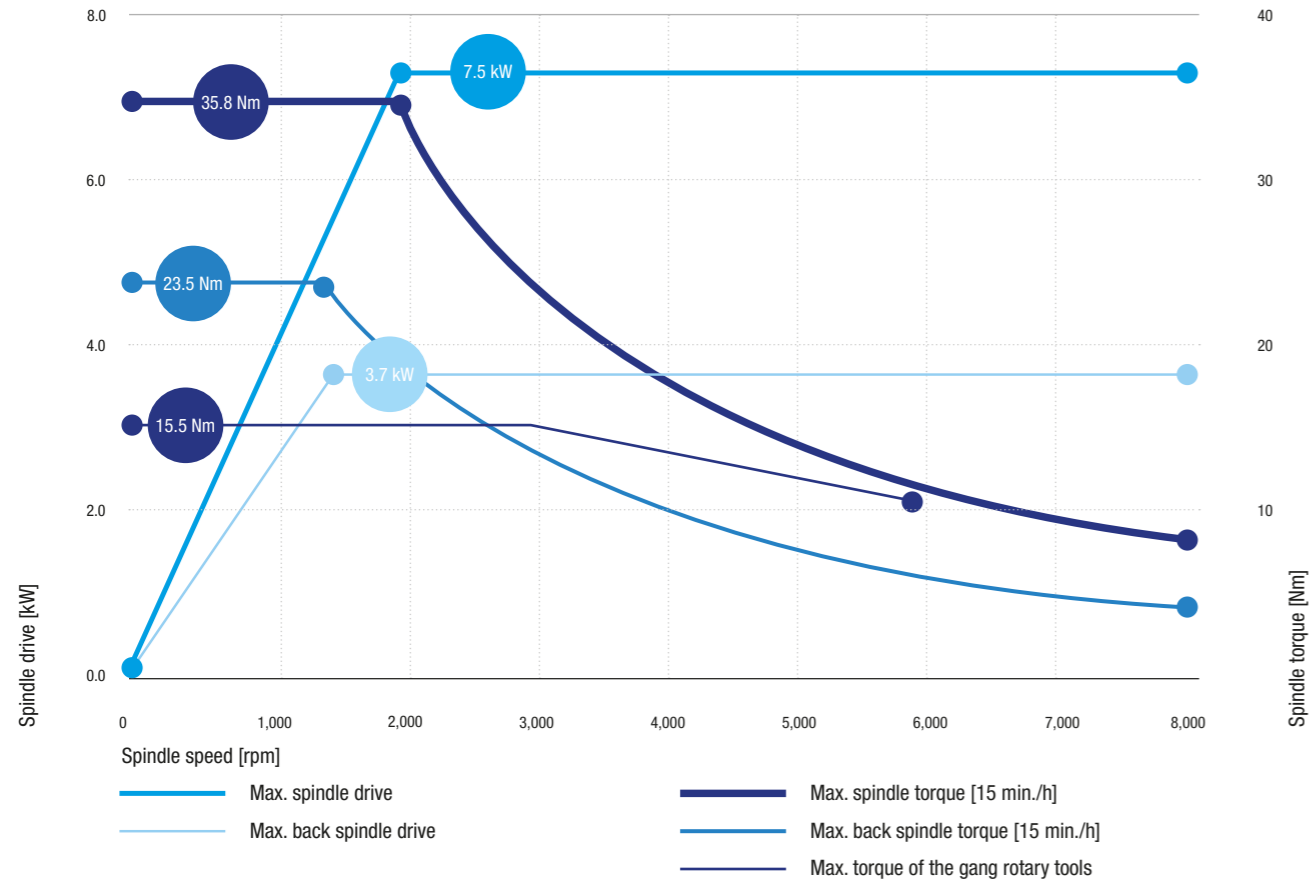
Working area

The modular tooling helps customers optimize their production by efficiently combining the available functions to achieve their ideal machine configuration.

- B axis: Rotary tools on the gang tool post
- Rotary tools on the opposite post (Type X-XII)
- Back tool post with integrated Y2 axis (Type X-XII).



Performance diagram



Tooling System

Rotary tools on the gang tool post

U30B

4 stations for rotary tools for cross and face machining as well as for multi-spindle machining

U31B [types VIII and X]

Carry up to four rotary tools, one station with [manually] adjustable angle between 0° and 90°

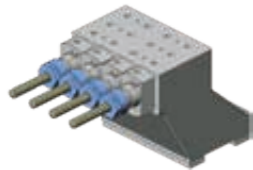
U32B [type XII]

Equipped with B axis for front and back machining between 90° and -45°

Opposite tool post

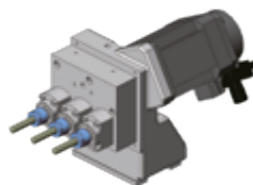
U120B [type VIII]

Fixed x 4 tools



U121B [types X and XII]

Rotary x 3 tools



Back tool post

U151B [type VIII]

4 rotary tools and 1 fixed tool

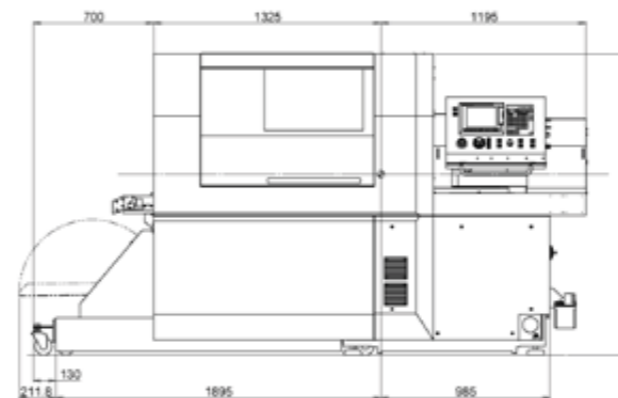
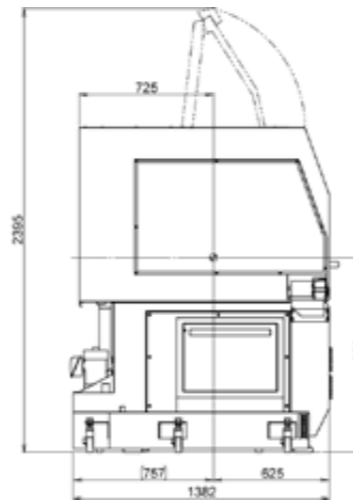


U12B [types X and XII]

With integrated Y2 axis, accommodates 4 rotary tools or fixed tools in the upper row and 5 fixed tools in the lower row.



Floor plan



Machine specification

Item	L32 VIII (L32-1M8)	L32 X (L32-1M10)	L32 XII (L32-1M12)
Max. machining diameter	Ø 32 mm [Ø 38 mm Option]	Ø 32 mm [Ø 38 mm Option]	Ø 32 mm [Ø 38 mm Option]
Max. machining length/without rechucking	GB: 320 mm GBL: 80 mm	GB: 320 mm GBL: 80 mm	GB: 320 mm GBL: 80 mm
Max. main spindle drilling diameter	Ø 12 mm	Ø 12 mm	Ø 12 mm
Max. tapping diameter for the main spindle	M12	M12	M12
Spindle through-hole diameter	Ø 39 mm	Ø 39 mm	Ø 39 mm
Main spindle speed	8,000 rpm	8,000 rpm	8,000 rpm
Max. chuck diameter of the back spindle	Ø 32 mm [Ø 38 mm Option]	Ø 32 mm [Ø 38 mm Option]	Ø 32 mm [Ø 38 mm Option]
Max. drilling diameter for the back spindle	Ø 10 mm	Ø 10 mm	Ø 10 mm
Max. tapping diameter for the back spindle	M8	M8	M8
Back spindle speed	8,000 rpm	8,000 rpm	8,000 rpm
Rotary tools on the gang tool post			
Max. drilling diameter	Ø 10 mm	Ø 10 mm	Ø 10 mm
Max. tapping diameter	M8	M8	M8
Rotary tool speed [Gang tool post]	6,000 rpm	6,000 rpm	6,000 rpm
Rotary tools for back machining			
Max. drilling diameter	Ø 8 mm	Ø 8 mm	Ø 8 mm
Max. tapping diameter	M6	M6	M6
Rotary tool speed [backside]	6,000 rpm	6,000 rpm	6,000 rpm
Number of tools to be mounted	19-30	24-44	30-40
Turning tools	6	6	6
Rotary tools on the gang tool post	4-6	5-13	7-11
Front drilling tools	4-9	4-16	4-9
Back drilling tools	5-11	9-20	13-19
Collet type and guide bush type			
Main and back spindle	F37	F37	F37
Guide bush	T229	T229	T229
Rapid feed rate			
All axes [excluding the Y2 axis]	32 m/min	32 m/min	32 m/min
Y2 axis		24 m/min	24 m/min
Motors			
Motor spindle drive	3.7/7.5 kW	3.7/7.5 kW	3.7/7.5 kW
Gang tool post rotary tool drive	1.0 kW	1.0 kW	1.0 kW
Back spindle drive	2.2/3.7 kW	2.2/3.7 kW	2.2/3.7 kW
Rotary tools in holder for back machining	1.0 kW	1.0 kW	1.0 kW
Motor Front rotary tool drive		1.0 kW	1.0 kW
Air pressure	5 bar	5 bar	5 bar
Input power	13.2 kVA	13.2 kVA	13.2 kVA
Machine dimensions			
Dimensions	W 3,220 x D 1,750 x H 1,382 mm		
Weight	2,850 kg	2,900 kg	2,900 kg
Center height	1,050 mm	1,050 mm	1,050 mm
Standard Accessories			
Synchronous guide bush	Internal machine lighting		
Cut-off tool breakage detector	Conversion parts for guide bush type or guide bush-less type		
Workpiece conveyor	Pneumatic workpiece ejector system		
Coolant flow rate detector	3-color signal tower		
Special Accessories			
Chip conveyor	Oil mist evacuation		
High-pressure system	Option for long workpieces		
Standard NC functions			
Control unit: Mitsubishi Meldas M70LPC-VU	Spindle synchronization		
Nose radius compensation	Milling interpolation		
Multiple repetitive cycles	Synchronized thread cutting		
Deep drilling cycle	C axis at main and back spindle		
Constant cutting speed	Geometric function		
User macro	Corner chamfering / rounding function		
Network function	Program storage capacity 160 m		
Optional NC functions			
Tool life management	Hob function		
Polygon function	Program storage capacity 600 m		
Helical interpolation function	80 tool offset pairs		

L20

Our bestselling L20 completely renovated.

A machine synonymous with the history of Cincom has been redesigned for the new age with 3 models in modular design. Ranging from a 5-axis machine with excellent cost performance to a high-end machine equipped with B axis and a back spindle Y axis, you may select the machine according to the functions you require. The machine concept offers unrivalled versatility – various gang tool posts, drilling holders for front and back machining with and without rotary tools are available from which the customer may select the types best suited for his requirements at hand.

Advantages

Individually selectable modules for maximum productivity and profitability.

Modular tooling – versatile, reliable, powerful and highly productive.

Shorter idle times and higher feed rates due to Cincom control – leading to significantly reduced cycle times.

Available with LFV technology.

Available with laser technology.

2.49 m²

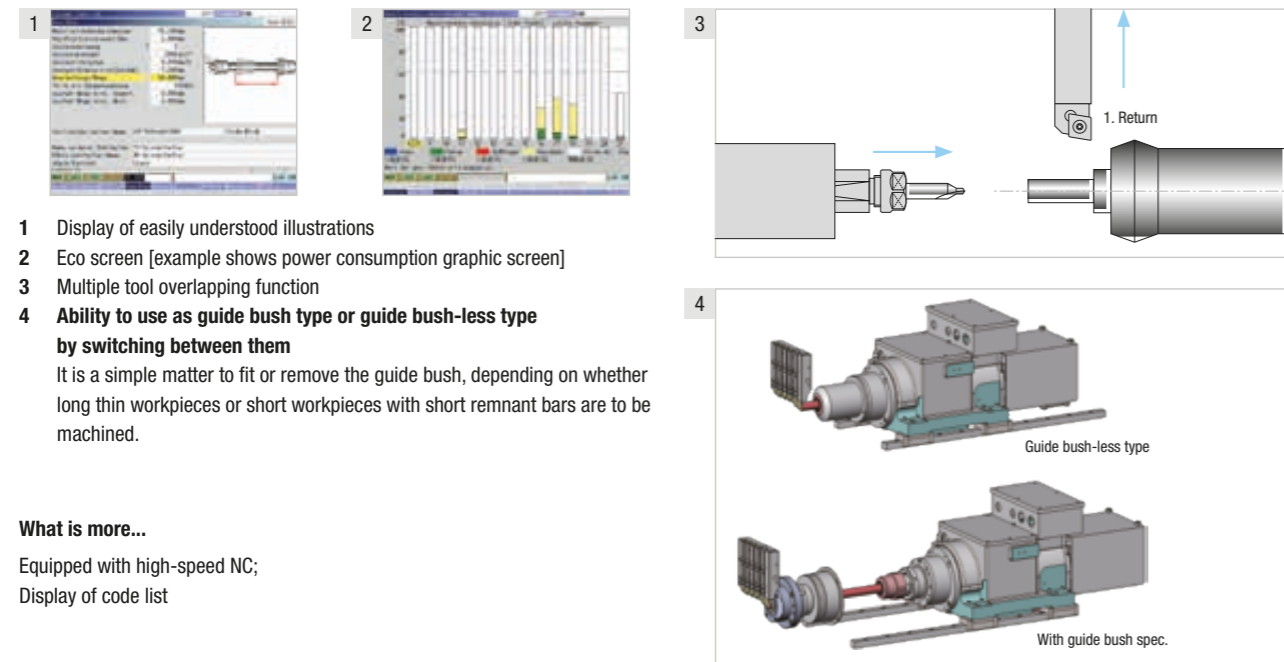


Workpiece examples

- Name** Workpiece produced with integrated optional laser system
Material Stainless steel
- Name** Milled example workpiece
Material Stainless steel
- Name** Connector
Material Steel
- Name** Medicine
Material Titanium
- Name** Lever for quick-clamping system
Material Aluminium



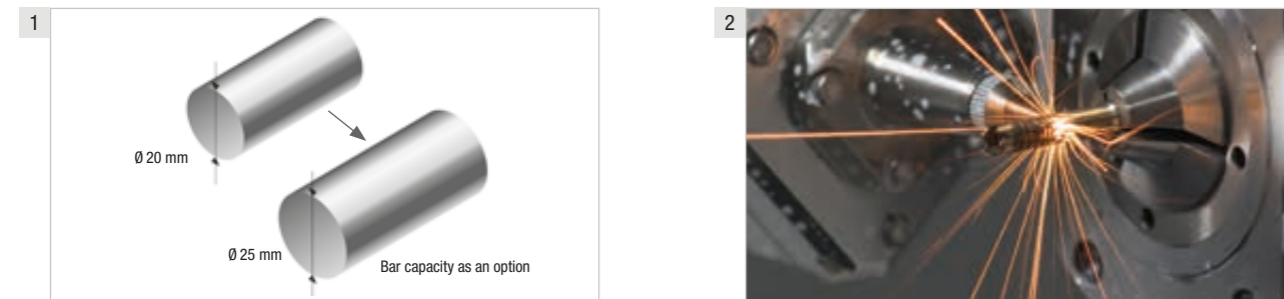
Standard



- Display of easily understood illustrations
- Eco screen [example shows power consumption graphic screen]
- Multiple tool overlapping function
- Ability to use as guide bush type or guide bush-less type by switching between them**
It is a simple matter to fit or remove the guide bush, depending on whether long thin workpieces or short workpieces with short remnant bars are to be machined.

What is more...
Equipped with high-speed NC;
Display of code list

Options



- Supply of Ø 25 mm bar stock is also supported as an option.**
The machining length per chucking [without rechucking] amounts to 200 mm [Ø 20 mm] or 188 mm [Ø 25 mm]. Fitting optional chuck devices for long workpieces [Option] enables unloading workpieces of up to Ø 20 mm.

- New machines can be additionally equipped with laser system.

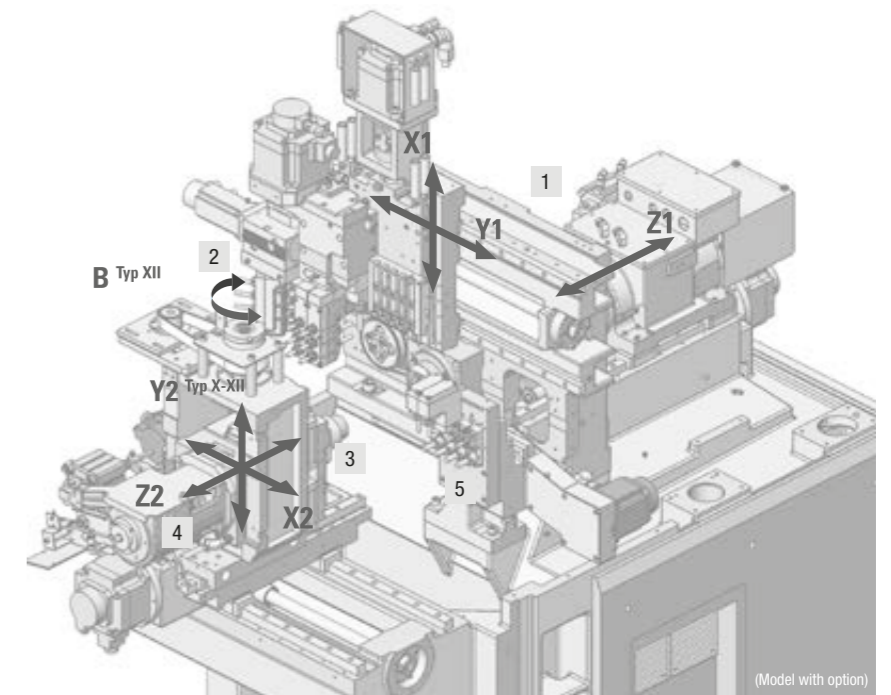
What is more...
LFV technology as an option



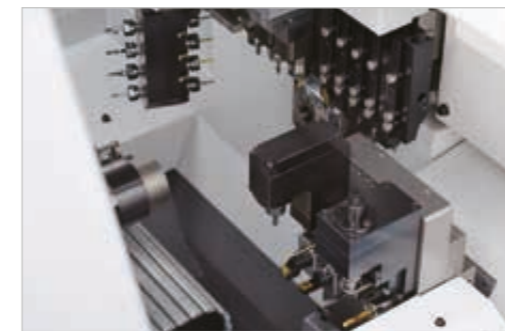
Layout

- Main spindle** 10,000 rpm Motor: 222/3.7 kW
Maximum machining length : 200 mm/1 chucking [with guide bush]
- Rotary tools on the gang tool post**
9,000 rpm, max.
Rotary tools at B axis unit *Type XII
12,000 rpm, max.
- Rotary tools on the front tool post** *Standard for types XXIII
7,500 rpm, max.
- Back spindle** 10,000 rpm
- Rotary tools on the back tool post**
7,500 rpm, max.

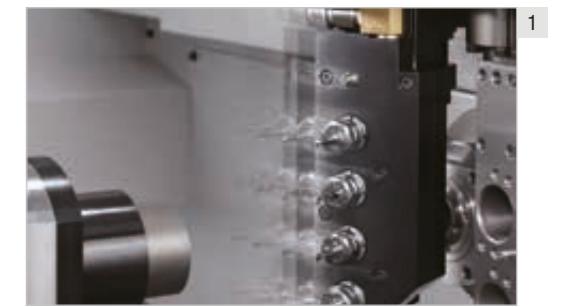
[Type X and Type XII X1 / Z1 axis with LFV technology
Type VIII X1 / Z1 / X2 / Z2 axis with LFV technology]



Working area

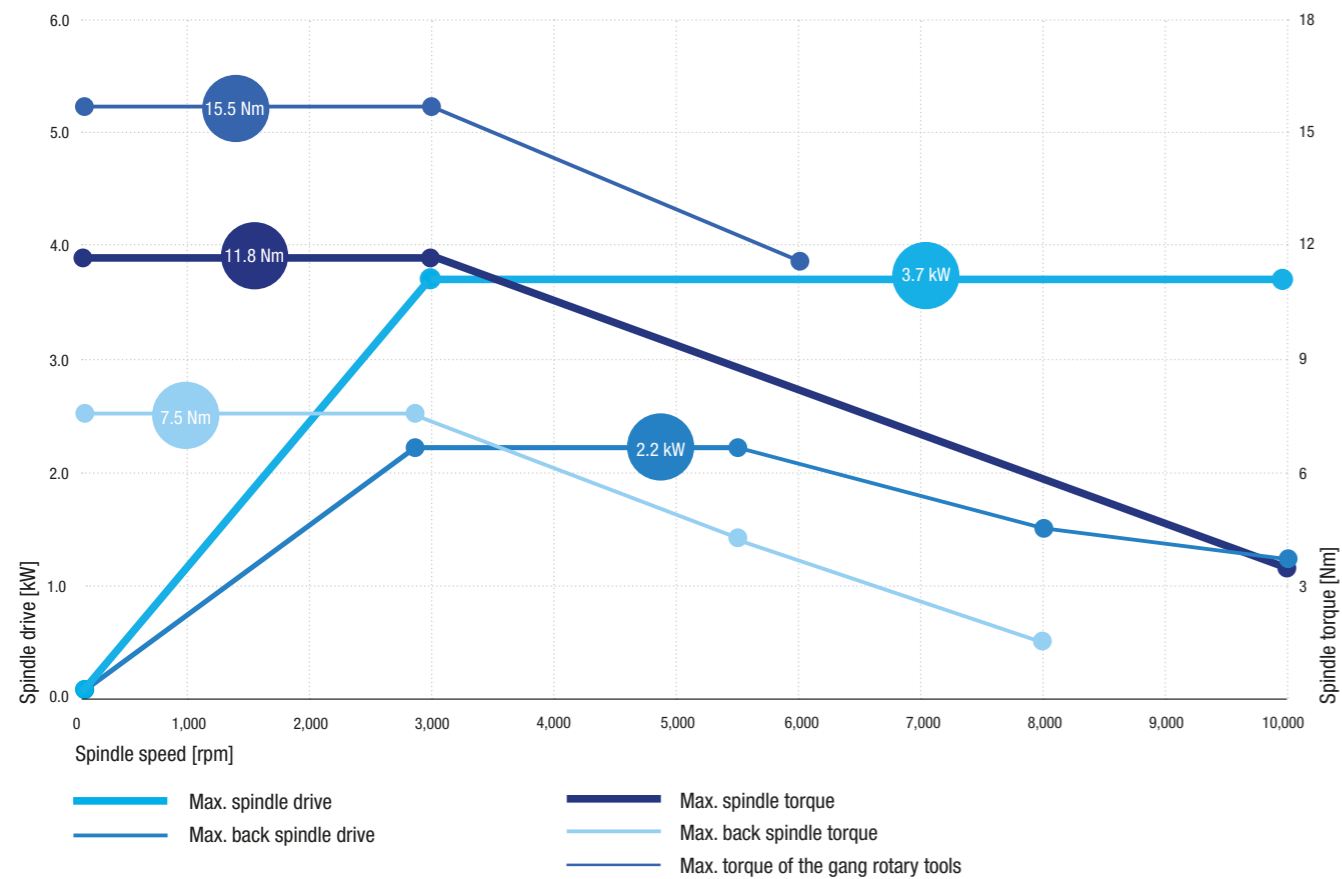


Example: Part machining



- Type XII machines are equipped with a B axis for rotary tools at the gang tool post as standard; the B axis may be adjusted within a range of 135° [90° to -45°].
- Regarding the front tool post, the customer may either opt for a tool post for the simultaneous machining with two tools at the guide bush [roughing/finishing] or for a model suited for accommodating deep hole drilling tools.
- Type X and XII machines the tool post for back machining is able to accommodate a total of 8 tools: 4 rotary tools in the upper row and 4 fixed tools in the lower row.

Performance diagram



Tooling System

Rotary tools on the gang tool post

U35B [STD for types VIII and X]

4 rotary tools + 3 tool spindles for face machining at one side, manually adjustable between 0° and 90°

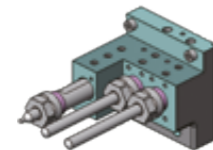
U32B [STD for type XII]

3 rotary tools + B axis with four tool spindles for front and back machining over a range of 135° [+90° to -45°]

Opposite tool post

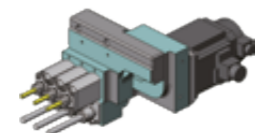
U121B [STD for type VIII]

3 fixed tools [for deep hole drilling]



U128B [STD for types X and XII]

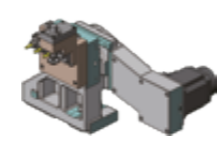
3 fixed tools
+ 3 rotary tools



Back tool post

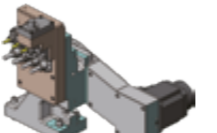
U153B [STD for type VIII]

Rotary x 4 tools

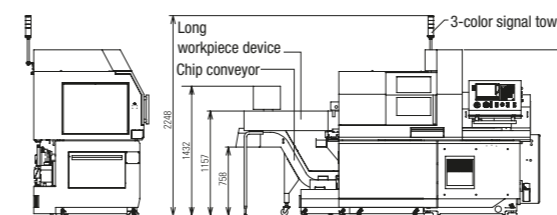
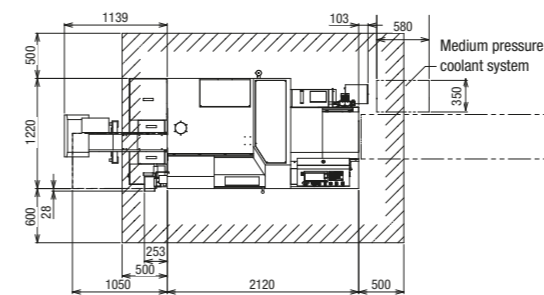
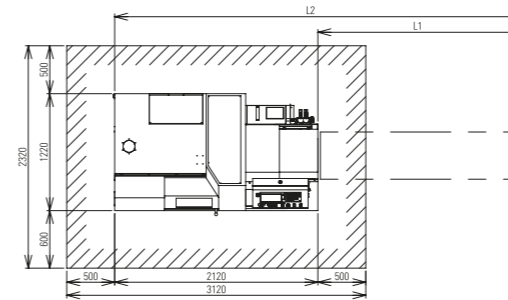
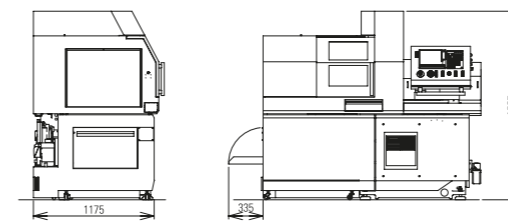


U155B [STD for types X and XII]

4 fixed tools
+ 4 rotary tools



Floor plan



Machine specification

Item	L20 VIII (L20-2M8)	L20 X (L20-2M10)	L20 XII (L20-2M12)
Max. machining diameter	Ø 20 mm [Ø 25 mm Option]	Ø 20 mm [Ø 25 mm Option]	Ø 20 mm [Ø 25 mm Option]
Max. machining length/without rechucking	GB: 200 mm GBL: 50 mm	GB: 200 mm GBL: 50 mm	GB: 200 mm GBL: 50 mm
Max. main spindle drilling diameter	Ø 10 mm	Ø 10 mm	Ø 10 mm
Max. tapping diameter for the main spindle	M8	M8	M8
Spindle through-hole diameter	Ø 26 mm	Ø 26 mm	Ø 26 mm
Main spindle speed	10,000 rpm	10,000 rpm	10,000 rpm
Max. chuck diameter of the back spindle	Ø 20 mm [Ø 25 mm Option]	Ø 20 mm [Ø 25 mm Option]	Ø 20 mm [Ø 25 mm Option]
Max. drilling diameter for the back spindle	Ø 8 mm	Ø 8 mm	Ø 8 mm
Max. tapping diameter for the back spindle	M6	M6	M6
Back spindle speed	10,000 rpm	10,000 rpm	10,000 rpm
Rotary tools on the gang tool post			
Max. drilling diameter	Ø 8 mm	Ø 8 mm	Ø 8 mm
Max. tapping diameter	M6	M6	M6
Rotary tool speed [Gang tool post]	9,000 rpm	9,000 rpm	9,000 rpm
Rotary tools for back machining			
Max. drilling diameter	Ø 5 mm	Ø 5 mm	Ø 5 mm
Max. tapping diameter	M4	M4	M4
Rotary tool speed [backside]	7,500 rpm	7,500 rpm	7,500 rpm
Number of tools to be mounted	37	44	40
Turning tools	5	5	5
Rotary tools on the gang tool post	25	25	21
Front drilling tools	3	6	6
Back drilling tools	4	8	8
Collet type and guide bush type			
Main and back spindle	145E	145E	145E
Guide bush	T223	T223	T223
Rapid feed rate			
All axes [excluding the Y2 axis]	32 m/min	32 m/min	32 m/min
Y2 axis		8 m/min	8 m/min
Motors			
Motor spindle drive	2.2/3.7 kW	2.2/3.7 kW	2.2/3.7 kW
Gang tool post rotary tool drive	2.2 kW	2.2 kW	2.2 kW
Back spindle drive	0.75/2.2 kW	0.75/2.2 kW	0.75/2.2 kW
Rotary tools in holder for back machining	0.75 kW	0.75 kW	0.75 kW
Motor		0.75 kW	0.75 kW
Front rotary tool device		0.75 kW	0.75 kW
Air pressure	5 bar	5 bar	5 bar
Input power	7.3 KVA	7.3 KVA	7.3 KVA
Machine dimensions			
Dimensions	W 2,120 x D 1,220 x H 1,835 mm		
Weight	2,350 kg	2,400 kg	2,400 kg
Center height	1,050 mm	1,050 mm	1,050 mm
Standard Accessories			
Synchronous guide bush	Internal machine lighting		
Cut-off tool breakage detector	Conversion parts for guide bush type or guide bush-less type		
Workpiece conveyor	Pneumatic workpiece ejector system		
Coolant flow rate detector	3-color signal tower		
Special Accessories			
Chip conveyor	Oil mist evacuation		
High-pressure system	Option for long workpieces		
Standard NC functions			
Control unit: Mitsubishi Meldas M70LPC-VU	Spindle synchronization		
Nose radius compensation	Milling interpolation		
Multiple repetitive cycles	Synchronized thread cutting		
Deep drilling cycle	C axis at main and back spindle		
Constant cutting speed	Geometric function		
User macro	Corner chamfering / rounding function		
Network function	Program storage capacity 160 m		
Optional NC functions			
Tool life management	Hob function		
Polygon function	Program storage capacity 600 m		
Helical interpolation function	80 tool offset pairs		

L12

Machining of workpieces with small diameter with or without guide bush and high-speed spindle with 15,000 rpm.

It is a simple matter to fit or remove the guide bushing so that the machine configuration can be adapted to suit the workpiece to be machined.

As an automatic lathe that combines two roles in a single unit, it can be used to machine both long and short workpieces effectively. It also shows uncompromising performance as a machine for high-speed, small-diameter applications. It shortens cycle times with a front spindle capable of high-speed rotation of 15,000 rpm and 10,000 rpm rotary tools. The L series that has built Cincom's history is now creating the new 'standard' in automatic lathes for function and performance.

Advantages

The new model L212 comes equipped with an additional Y axis.

Versatile tooling in gang tool post.

Increased tooling.

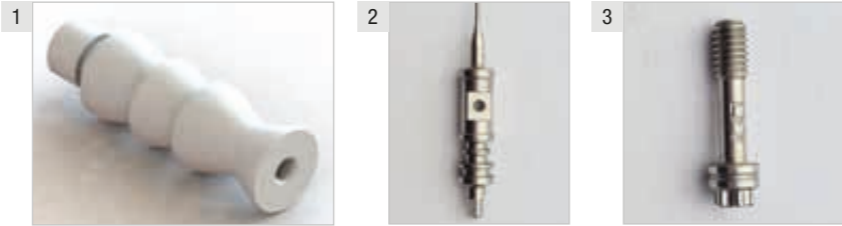
Small and compact.

1.78 m²



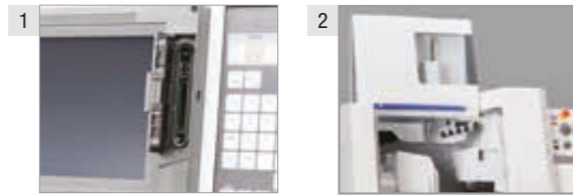
Workpiece example

- 1 **Name** Shaft
Material Plastic
- 2 **Name** Sample part for trade fair
Material 1.4305
- 3 **Name** Sample part for trade fair
Material 42CrMo4

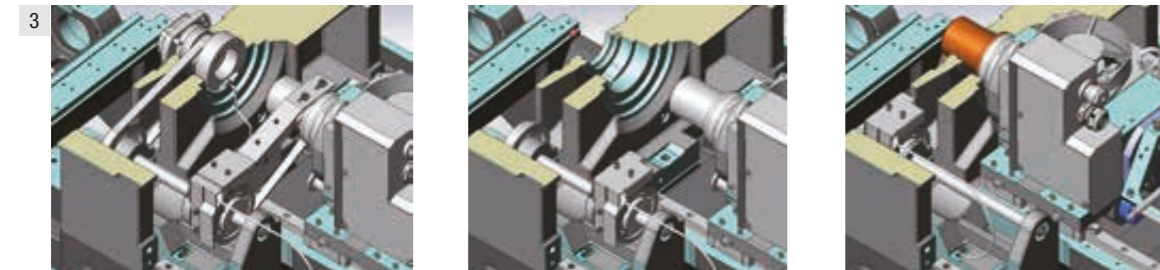


Standard

- 1 NC program I/O
- 2 Door folds up completely
- 3 Detachable guide bushing: The L12 allows the guide bushing to be fitted and removed simply, so it can be used in accordance with the workpiece to be machined, either as a machine for long workpieces utilizing the guide bushing, or as a guide bushing-less machine able to leave short remnant bars.



Procedure for GB/GBL switching (Switching from guide bushing to guide bushing-less)



Retract the machine and remove covers.

Remove guide bush and its drive belts.

Fit the spindle cap for guide bushing-less operation, then advance the spindle.

Options

- 1 Back tool post tooling variation
- 2 Chip conveyor
- 3 Barfeeder
- 4 New machines can be additionally equipped with laser system.

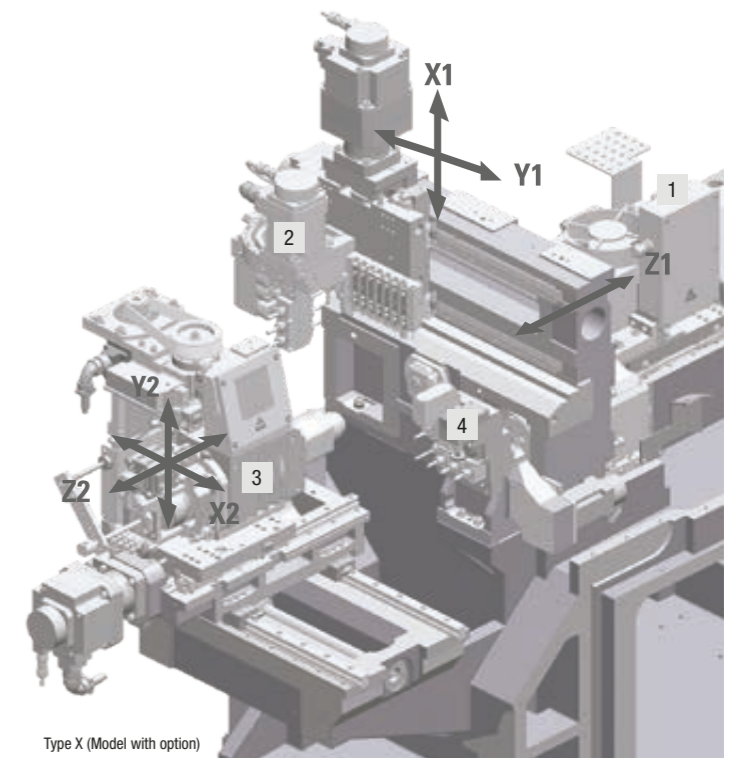


What is more... LFV technology as an option, Laser technology can be fitted.

Layout

- 1 **Main spindle**
Max. spindle speed:
15,000 rpm (GB); 12,000 rpm (GBL)
- 2 **Rotary tools**
Max. spindle speed: 10,000 rpm
- 3 **Back spindle**
Max. spindle speed: 10,000 rpm
- 4 **Rotary tools for back machining**
Max. spindle speed: 9,000 rpm

[X1/Z1/X2/Z2 axis with LFV technology]



Type X (Model with option)

Working area



- 1 **Modular Tooling System adapted and Y2 Axis equipped for greater functionality**
We have expanded the lineup by adding two models to the L12 series, which specializes in small-diameter machining, with a maximum diameter of 12 mm. Adoption of modular tooling systems that enable selection and combination of the functions tailored to a variety of machining needs realizes a flexible tooling layout, supporting diversified customer needs.

In addition, the introduction of the back spindle equipped with a Y2-axis in type X enhances back machining capability, improves the degree of freedom in process allocation, and also significantly increases the maximum number of tools installed. This allows flexible handling of various kinds of integrated/complex machining.

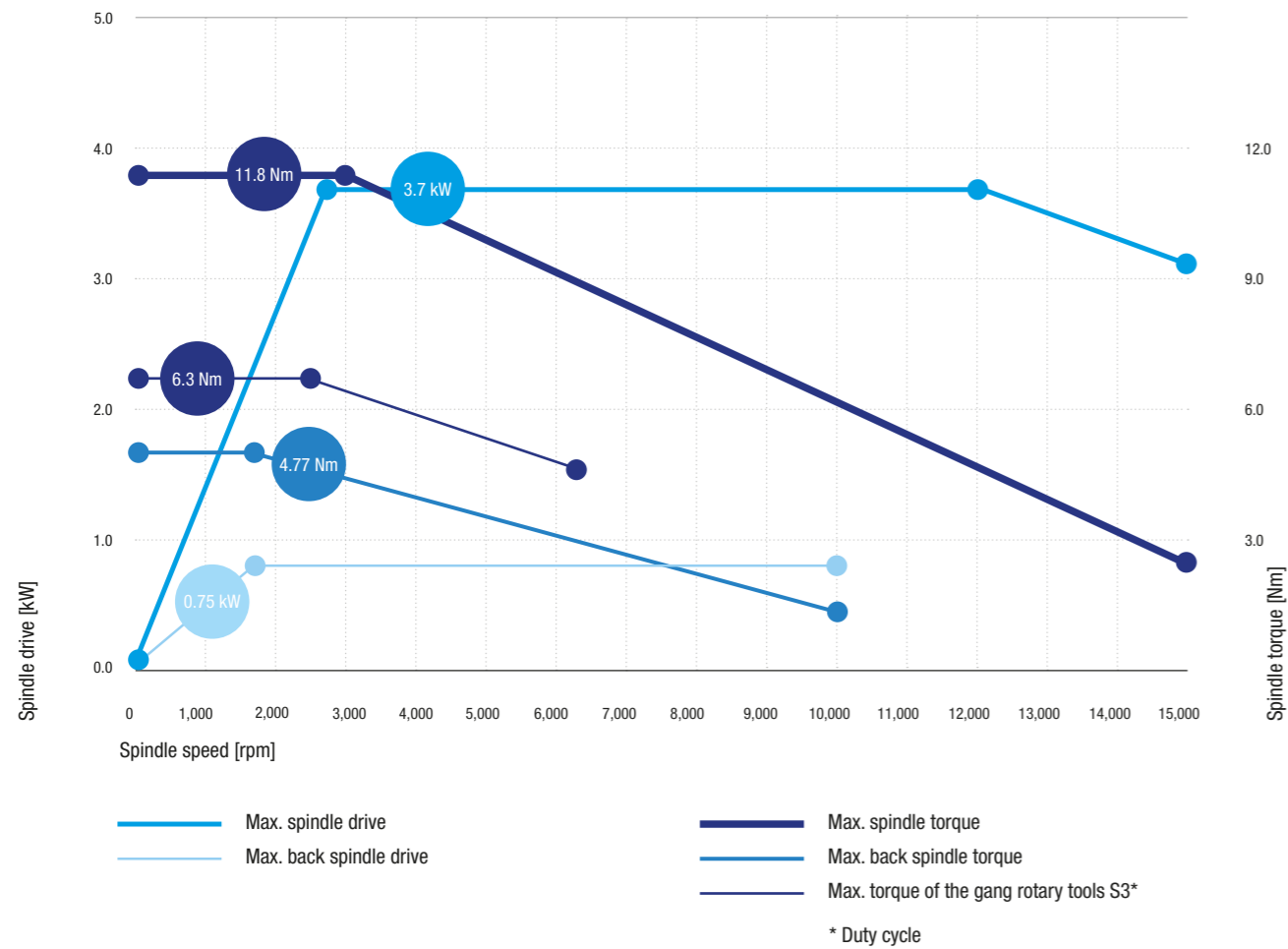
- 2 **Modular tooling**
A modular tooling system was adopted for the gang tool post and the back tool post. A versatile tooling layout, including the „angle adjustable end-face drilling spindle“, which can handle slanted holes, supports varied machining.

- 3 **Opposite tool post may be equipped with drill for deep hole drilling (CS)**

- 4 **Back spindle equipped with a Y2 axis in type X**
The back spindle is equipped with a Y2-axis in type X. This has improved back machining and increased the degree of freedom in allocation of processes.

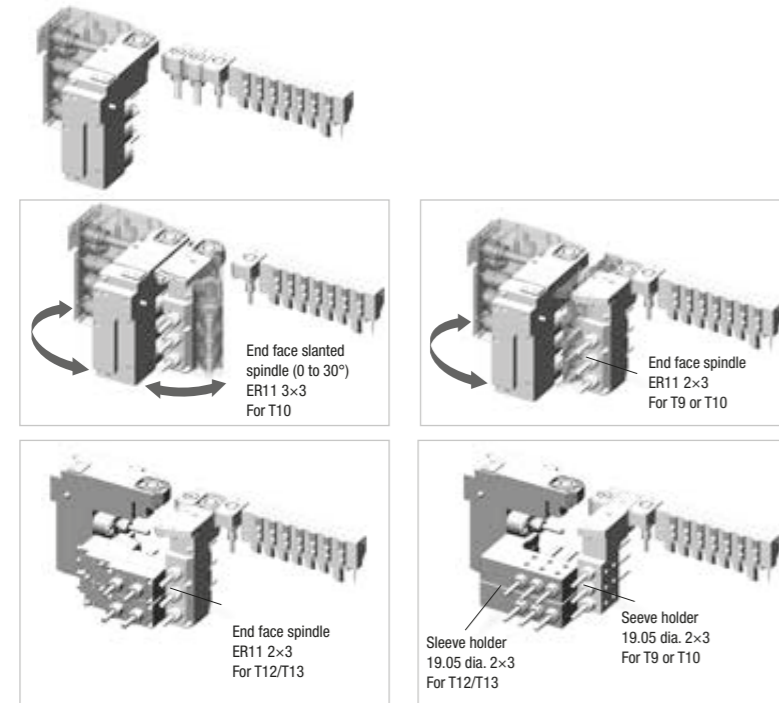


Performance diagram

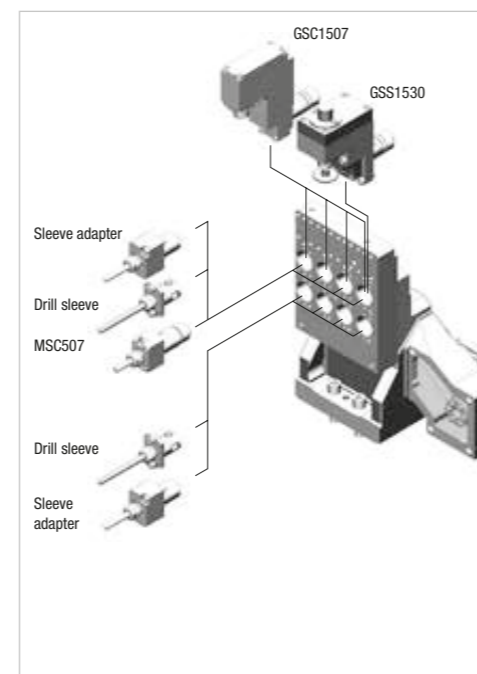


Tooling System

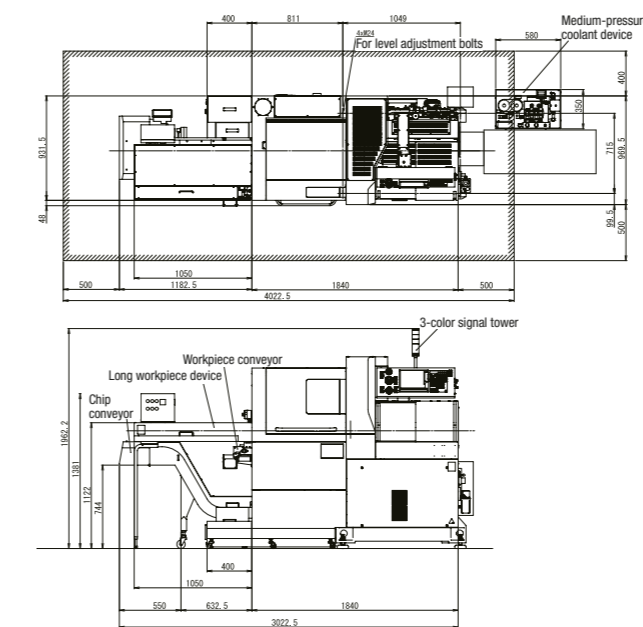
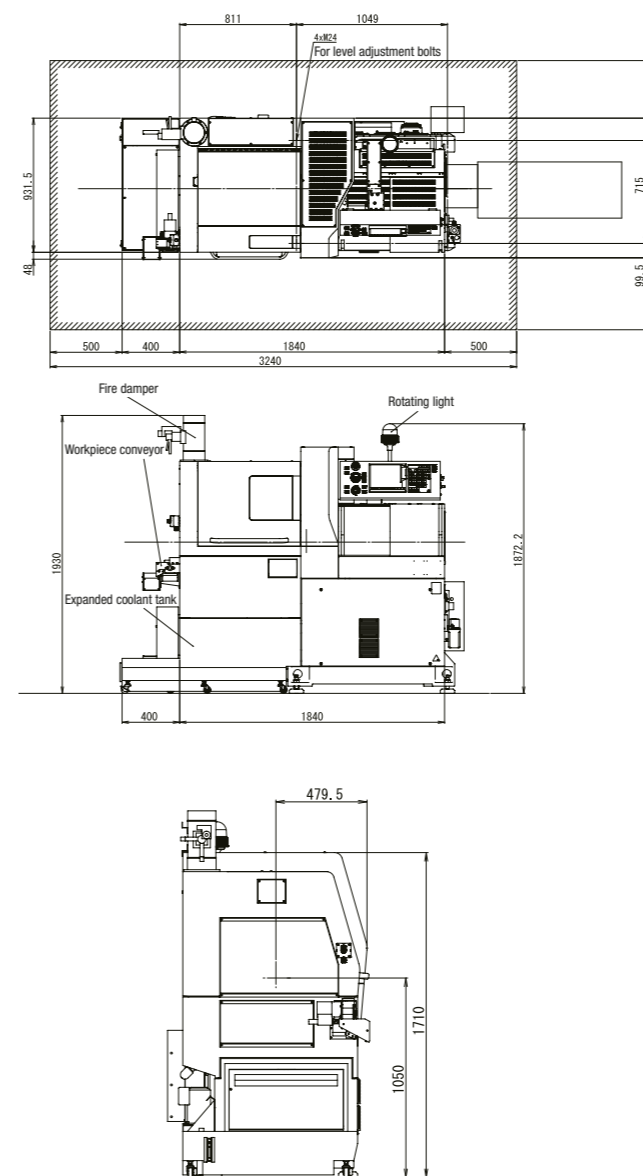
Gang tool post tooling variation



Back tool post tooling variation



Floor plan



Machine specification

Item	L12 VIII (L12-1M7)	L12 X (L12-2M10)
Max. machining diameter	Ø 12 mm	Ø 12 mm
Max. machining length (L)	GB: 135 mm GBL: 30 mm	GB: 135 mm GBL: 30 mm
Max. main spindle drilling diameter	Ø 8 mm	Ø 8 mm
Max. tapping diameter for the main spindle	M6	M6
Spindle through-hole diameter	Ø 20 mm	Ø 20 mm
Main spindle speed	Max. 15,000 rpm (GB), Max. 12,000 rpm (GBL)	Max. 15,000 rpm (GB), Max. 12,000 rpm (GBL)
Max. chuck diameter of the back spindle	Ø 12 mm	Ø 12 mm
Max. protrusion length	80 mm	80 mm
Max. protrusion length of the back spindle workpiece	30 mm	30 mm
Max. drilling diameter for the back spindle	Ø 6 mm	Ø 8 mm
Max. tapping diameter for the back spindle	M5	M6
Back spindle speed	max. 10,000 rpm	max. 12,000 rpm
Gang rotary tools		
Max. drilling diameter	Ø 5 mm	Ø 5 mm
Max. tapping diameter	M4	M4
Spindle speed	max. 10,000 rpm	max. 10,000 rpm
Back rotary tools (Option)		
Max. drilling diameter	Ø 5 mm	Ø 5 mm
Max. tapping diameter	M4	M4
Spindle speed	max. 9,000 rpm	max. 9,000 rpm
Number of tools to be mounted		
Gang tool post	6	7
Gang rotary tools	4 to 7	6 to 17
Front drills	4/4	Standard: 2, Max.: 11
Back drills	4 (13)	8 (17)
Tool size		
Turning tools	□ 10 mm, □ 12 mm (Option)	□ 10 mm, □ 12 mm (Option)
Drill sleeve	Ø 19.05 mm	Ø 19.05 mm
Chuck and bush		
Main spindle collet chuck	1212 E	1212 E
Guide bushes	F853	F853
Back spindle collet chuck	1212 E	1212 E
Rapid feed rate		
All axes	35 m/min	35 m/min
Motors		
Motor spindle drive	2.2/3.7 kW	2.2/3.7 kW
Gang tool post rotary tool drive	0.75 kW	0.75 kW
Back spindle drive	0.4/0.75 kW	0.75/1.5 kW
Back tool post rotary tool drive (Option)	0.5 kW	0.5 kW
Coolant	0.25 kW	0.25 kW
Center height	1,000 mm	1,050 mm
Rated power consumption	6.1 KVA	8 KVA
Total load current	22 A	22 A
Main breaker capacity	30 A	40 A
Power supply voltage	AC200V ± 10%	AC200V ± 10%
Pneumatic unit:	0.5 MPa, 60 NL/min (Power On) / 55 NL/min (Stationary) / 150 NL/min (Air blower)	0.5 MPa, 44 NL/min (Power On) / 55 NL/min (Stationary) / 150 NL/min (Air blower)
Machine dimensions		
Dimensions	W 1,840 × D 970 × H 1,710 mm	W 1,840 × D 970 × H 1,710 mm
Weight	1,700 kg	2,300 kg
Center height	1,050 mm	1,050 mm
Standard Accessories		
Synchronous guide bush; Internal machine lighting; Cut-off tool breakage detector; Conversion parts for guide bush type or guide bush-less type; Workpiece conveyor; Pneumatic workpiece ejector system; Coolant flow rate detector; 3-color signal tower		
Special Accessories		
Chip conveyor; Oil mist evacuation; High-pressure system; Option for long workpieces		
Standard NC functions		
Control unit: Mitsubishi Meldas M70LPC-VU; Spindle synchronization; Nose radius compensation; Milling interpolation; Multiple repetitive cycles; Synchronized thread cutting; Deep drilling cycle; C axis at main and back spindle; Constant cutting speed; Geometric function; User macro; Corner chamfering/rounding function; Network function; Program storage capacity 160 m		
Optional NC functions		
Tool life management; Hob function; Polygon function; Program storage capacity 600 m; Helical interpolation function; 80 tool offset pairs		

A20

Discover undreamt-of possibilities.

Acclaimed for its excellent cost to performance ratio, the A20 has evolved as a 5-axis machine for 20 mm diameter applications with the advantage that it can be used with or without a guide bush. It can be used as a regular guide bush automatic lathe when machining long slender workpieces, and without a guide bush for shorter parts with minimal bar remnants. The guide bush can be quickly and simply mounted and removed.

The performance of the machine has been improved too. The high-speed 10,000 rpm spindle enables optimized machining operations on smaller-diameter bar material. The machining length per chucking is now extended to 200 mm enabling the number of re-chuckings and thus the cycle times to be reduced when machining long workpieces. As an option, bar material of up to Ø 25 mm can also be machined extending the range of workpieces even more.

Advantages

Excellent price-performance ratio.

Maximum precision and reliability.

High operator convenience and good chip disposal.

Short retooling times.

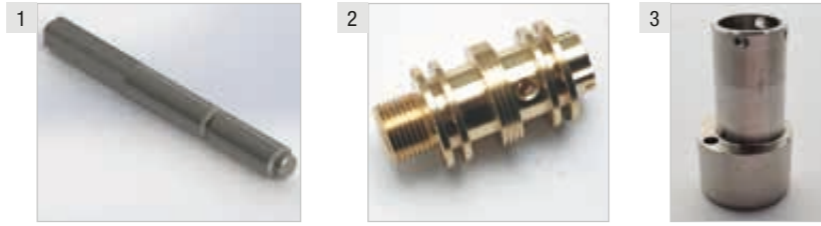
Part removal: the finished part is transferred onto a workpiece conveyor belt via a chute.

2.51 m²



Workpiece examples

- 1 **Name** Drive shaft
Material Titanium
- 2 **Name** Pneumatic piston
Material Brass
- 3 **Name** Sample part for trade fair
Material Free cutting steel



Standard

1

2

3

4

- 1 USB / PC Card Slot: NC programs can be input and output using the USB slot or PC card slot on the front face of the control panel.
- 2 Axis feed overlapping functions
- 3 Direct spindle indexing function
- 4 Machining with or without guide bush (GB/GBL) possible

Options



- 1 Supply of Ø 25 mm bar stock is also supported as an option. A wide range of workpieces can be machined.
- 2 Barfeeder

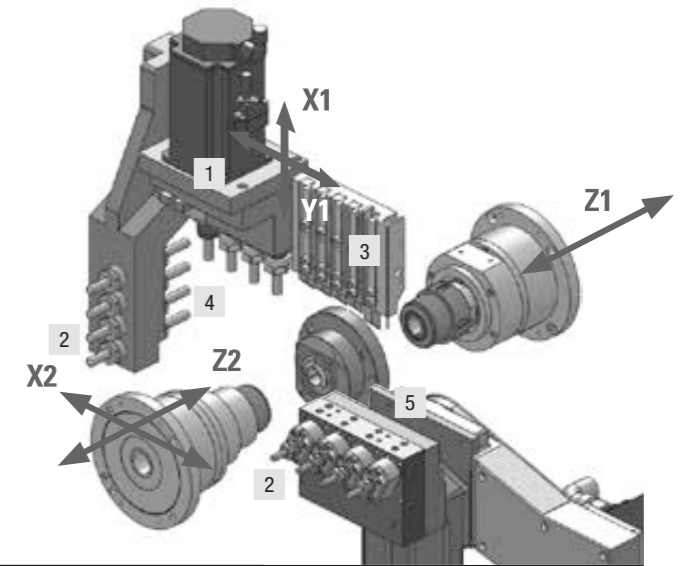


What is more...
LFV technology as an option

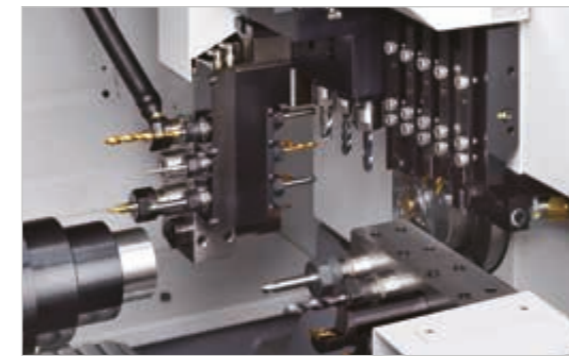
Layout

- 1 Rotary tools for cross machining 4 1 station modular
- 2 Tools for back drilling 4 (25.4 mm Dia.)
- 3 Turning tools on the gang tool post 5 (4x 12 mm Sq., 1x 16x16)
- 4 Tools for front drilling 4 (25.4 mm Dia.)
- 5 Rotary tools on the back tool post (option)

[X1 / X2 / Z1 / Z2 axis with LFV technology]

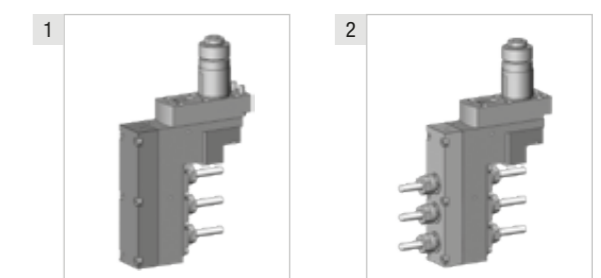


Working area



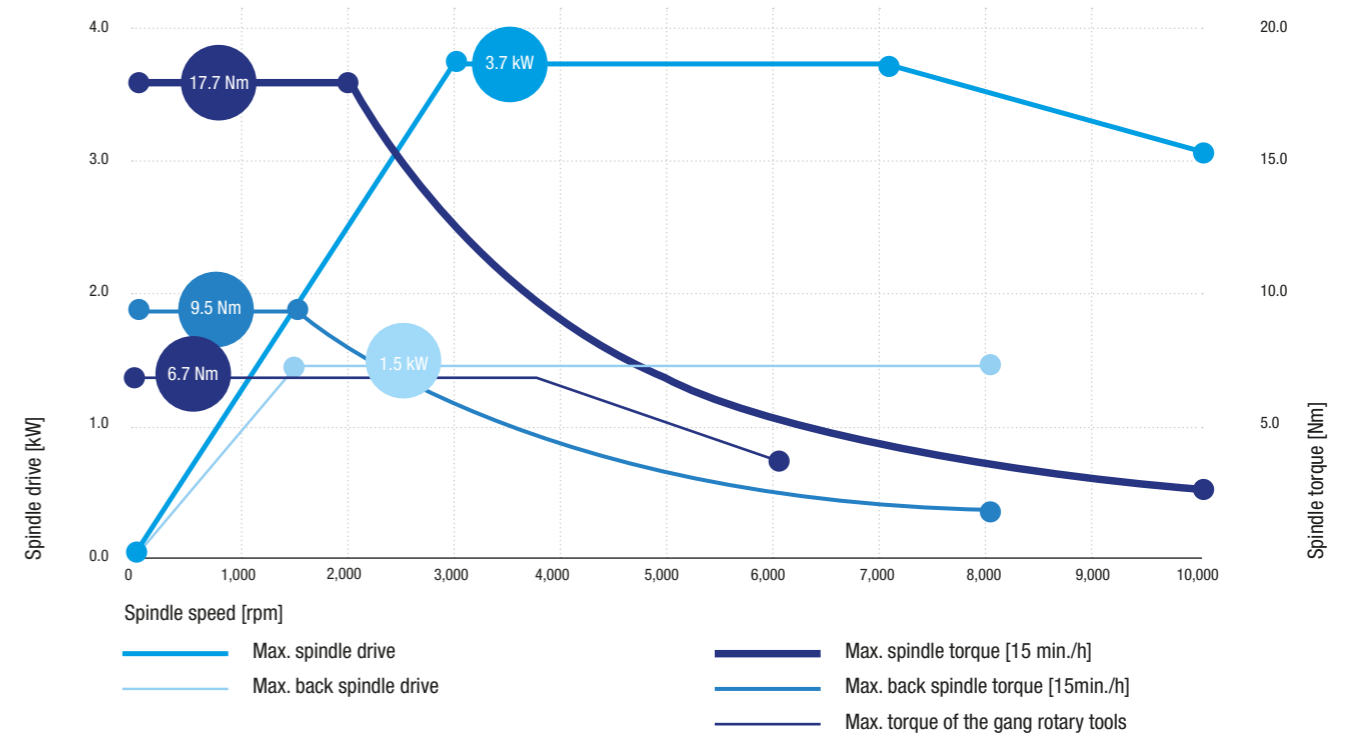
Example: Tool layout

Tooling System



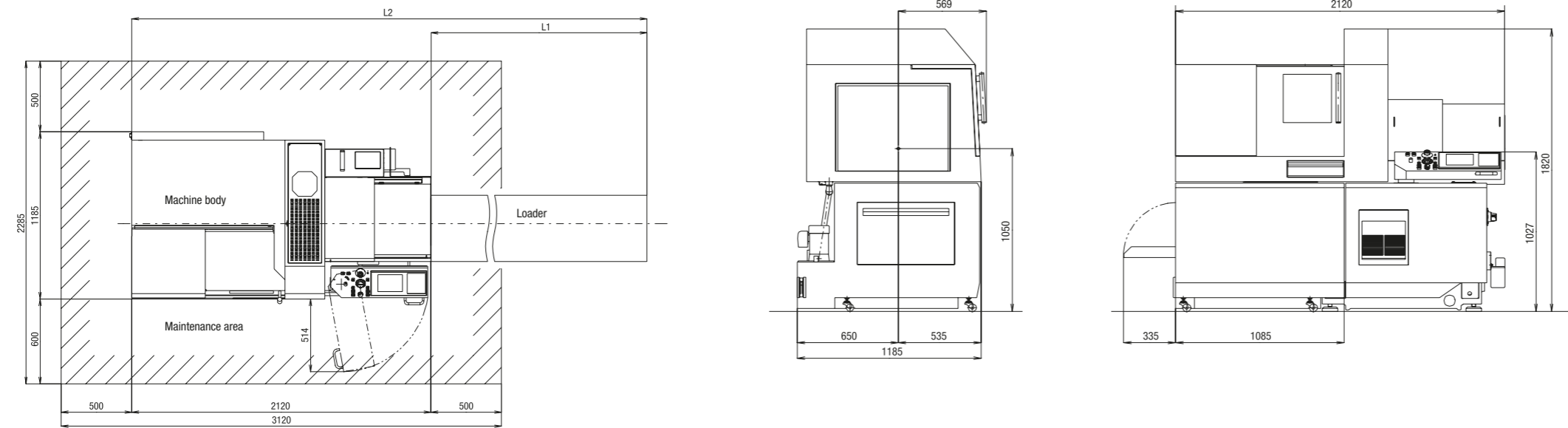
- 1 Triple-drive tool for main spindle machining
- 2 Triple-drive tool for main and back spindle machining

Performance diagram

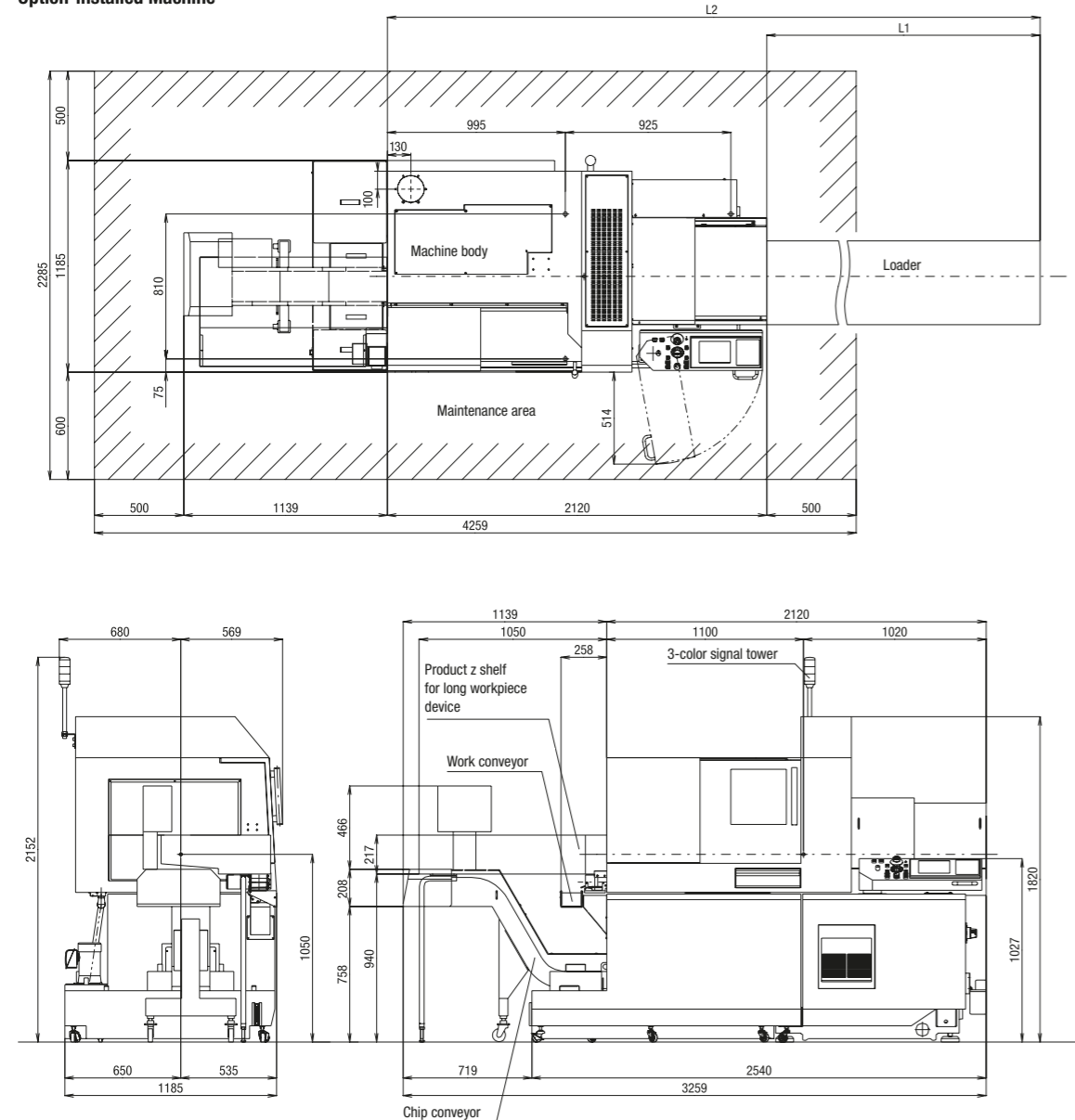


Floor plan

Standard Machine



Option-installed Machine



Machine specification

Item	A20-3F7N
Max. machining diameter	Ø 20 mm [Ø 25 mm optional]
Max. machining length/without rechucking	GB: 200 mm / GBL: 50 mm
Max. main spindle drilling diameter	Ø 10 mm
Max. tapping diameter for the main spindle	M8
Spindle through-hole diameter	Ø 26 mm
Main spindle speed	10,000 rpm
Max. chuck diameter of the back spindle	Ø 20 mm [Ø 25 mm optional]
Max. drilling diameter for the back spindle	Ø 8 mm
Max. tapping diameter for the back spindle	M6
Back spindle speed	8,000 rpm
Rotary tools on the gang tool post	
Max. drilling diameter	Ø 7 mm
Max. tapping diameter	M6
Rotary tool speed [gang tool post]	6,000 rpm
Rotary tools for back machining	
Max. drilling diameter	Ø 7 mm
Max. tapping diameter	M6
Rotary tool speed [backside]	6,000 rpm
Number of tools to be mounted	21
Collet type and guide bush type	
Main and back spindle	145E
Guide bush	22.001/T223
Rapid feed rate	
All axes [excluding the X1 axis]	32 m/min
X1 axis	18 m/min
Motors	
Motor spindle drive	2.2/3.7 kW
Gang tool post rotary tool drive	0.75 kW
Back spindle drive	1.1/1.5 kW
Back rotary tool drive	0.75 kW
Air pressure	5 bar
Input power	7.1 KVA
Machine dimensions	
Dimensions	W 2,120 x D 1,185 x H 2,152 mm
Weight	2,200 kg
Center height	1,050 mm
Standard Accessories	
Synchronous guide bush	Internal machine lighting
Cut-off tool breakage detector	Conversion parts for guide bush type or guide bush-less type
Workpiece conveyor	Pneumatic workpiece ejector system
Coolant flow rate detector	3-color signal tower
Special Accessories	
Chip conveyor	Oil mist evacuation
High-pressure system	Option for long workpieces
Standard NC functions	
Control unit: Fanuc FS32i Model B	Spindle synchronization
Nose radius compensation	Milling interpolation
Multiple repetitive cycles	Synchronized thread cutting
Deep drilling cycle	C axis
Constant cutting speed	Geometric function
User macro	Corner chamfering / rounding function
Network function	Program storage capacity 320 m
Tool life management	Polygon function
Hob function	

B12/16E

Cincom's B series 'best seller' model has been revamped. And the cost has been substantially reduced.

The B series, which has sold well worldwide for a long time, has been revamped. The B16 can handle diameters up to 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 granting high-accuracy machining in the proven manner. The rigidity of the back headstock has been improved. Preprocessing for shortest cycle time is supported by a simple on-machine program check function. The standard specifications include a comprehensive range of NC functions.

Advantages

- Reduced thermal displacement.
- On-machine program check function.
- Compact and affordable.
- Comprehensive range of optional accessories.
- Short tool change times.

1.33 m²



Workpiece example

Name Compressed air connection
Material Brass



Standard



1 Programm Input/Output

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

2 Product chute

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

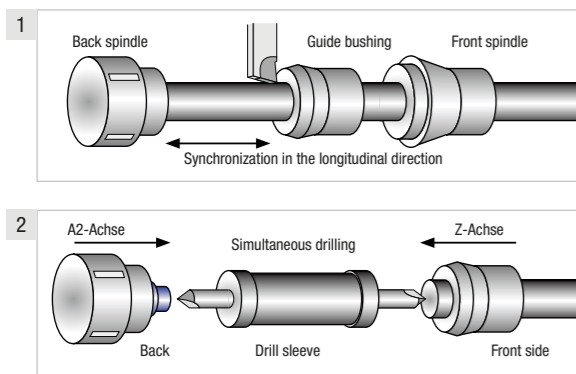
3 Chip receiver box

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

4 Coolant tank

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

Options



1 Z-A2 axis synchronized function

Synchronized feed of the Z axis (front spindle) and the A2 axis (back spindle) is possible using feed axis synchronization control. The A2 axis (back spindle) feed is controlled in synchronization with the Z axis (front spindle) feed.

2 Front/back simultaneous machining function

This function executes drilling on the front side face and the back side face simultaneously.

Layout

Main spindle

B12E Max. spindle speed: 12,000 rpm; when using an RGB: 8,000 rpm
 B16E Max. spindle speed: 10,000 rpm; when using an RGB: 8,000 rpm

Rotary tools

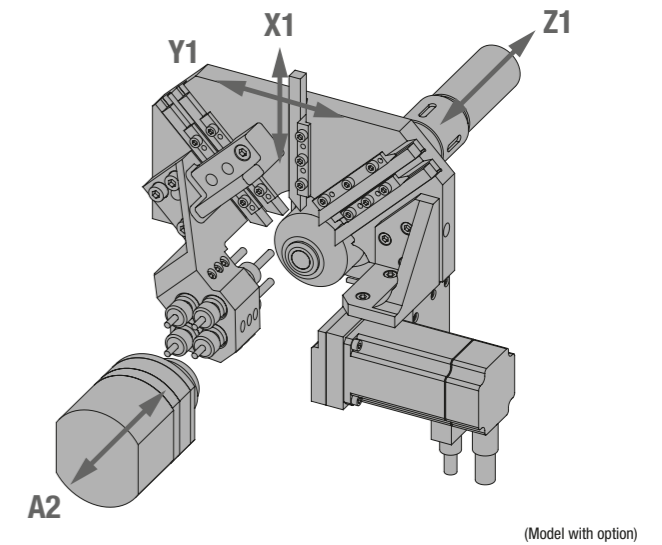
Max. speed: 4,500 rpm Max. drilling diameter: \varnothing 5 mm

Sub spindle

Max. speed: 6,000 rpm Max. drilling diameter: \varnothing 5 mm

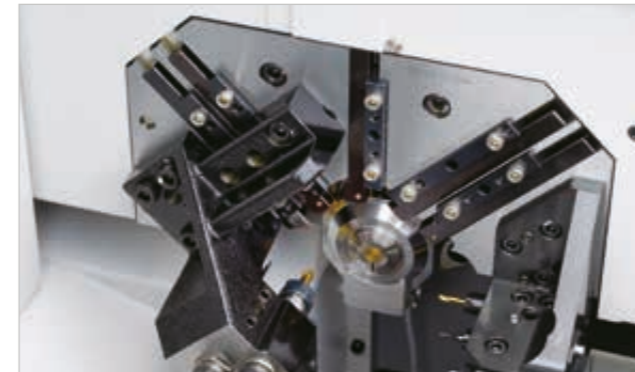
Drill sleeve holder

This holder can mount four drilling tools as standard.
 \varnothing 19.05 mm (Option) mm and \varnothing 20 mm gauges are available.

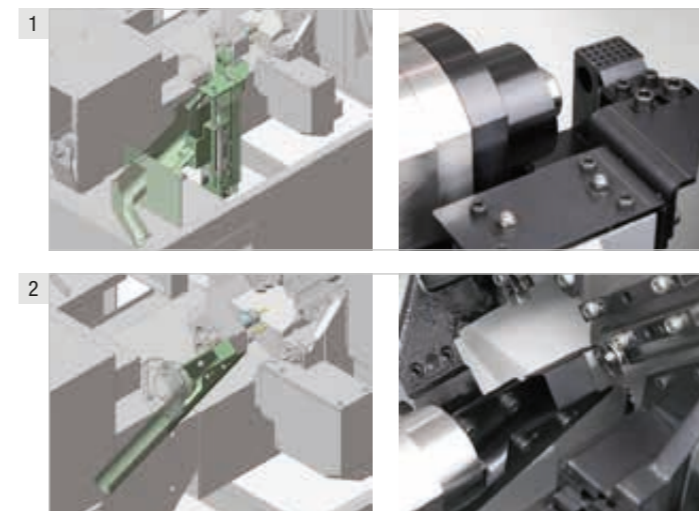


(Model with option)

Working area



Example: Tool layout



1 Workpiece separator for small parts

(collection on back side for type VI) [B1216EU34J]

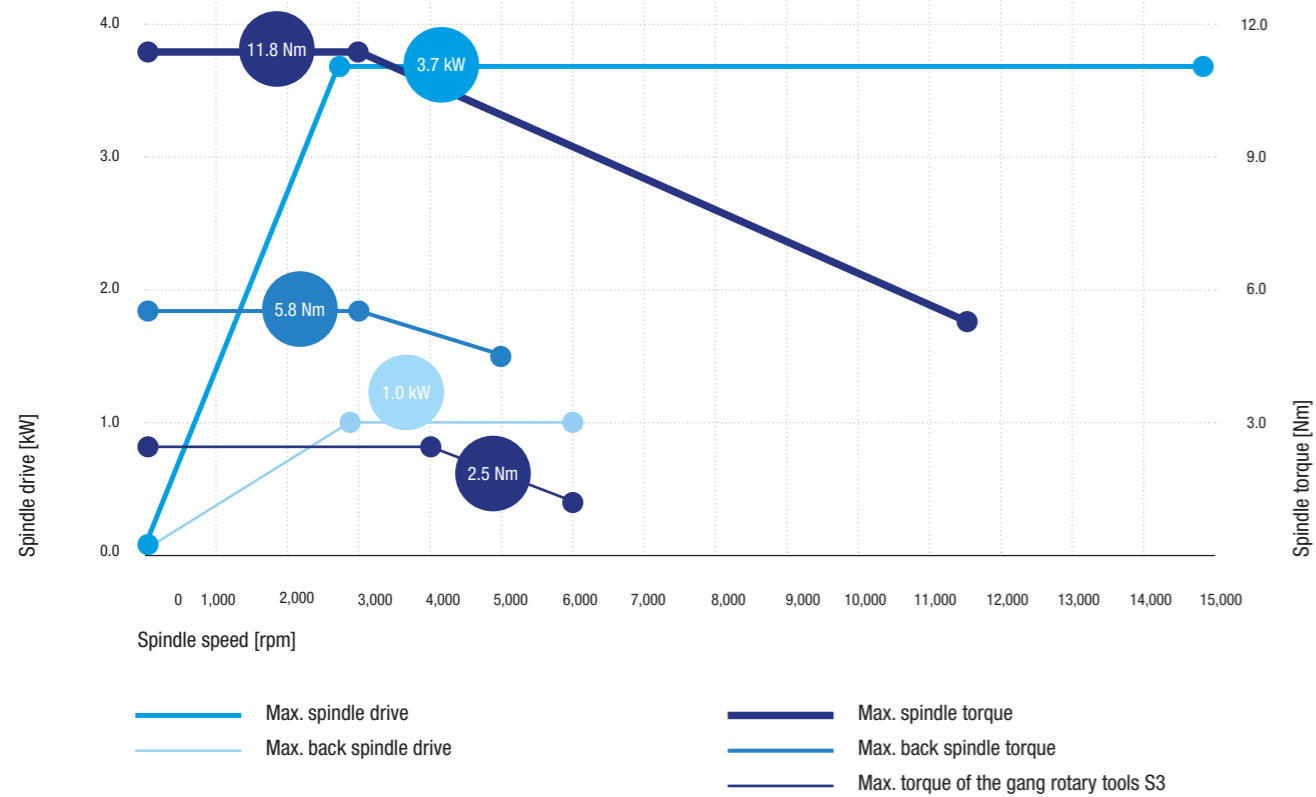
The workpieces ejected from the back spindle by air blow are flushed through the chute with coolant and collected together with the coolant. Applicable workpiece size: O.D. up to 2 mm, length up to 20 mm
 * Used with the back spindle chucking device [B12EU900B].
 * Used with air blow ejection unit for small parts [B12EU502C].

2 Workpiece separator for small parts

(collection on front side for type VI) [B1216EU341J]

Coolant is run through a chute mounted on the back spindle, and workpieces cut off in front machining are collected together with the coolant. The longitudinal position of the chute can be adjusted. Applicable workpiece size: O.D. up to \varnothing 2 mm, length up to 20 mm
 * Used with the workpiece separator for small parts (collection on back side) [B1216EU34J].

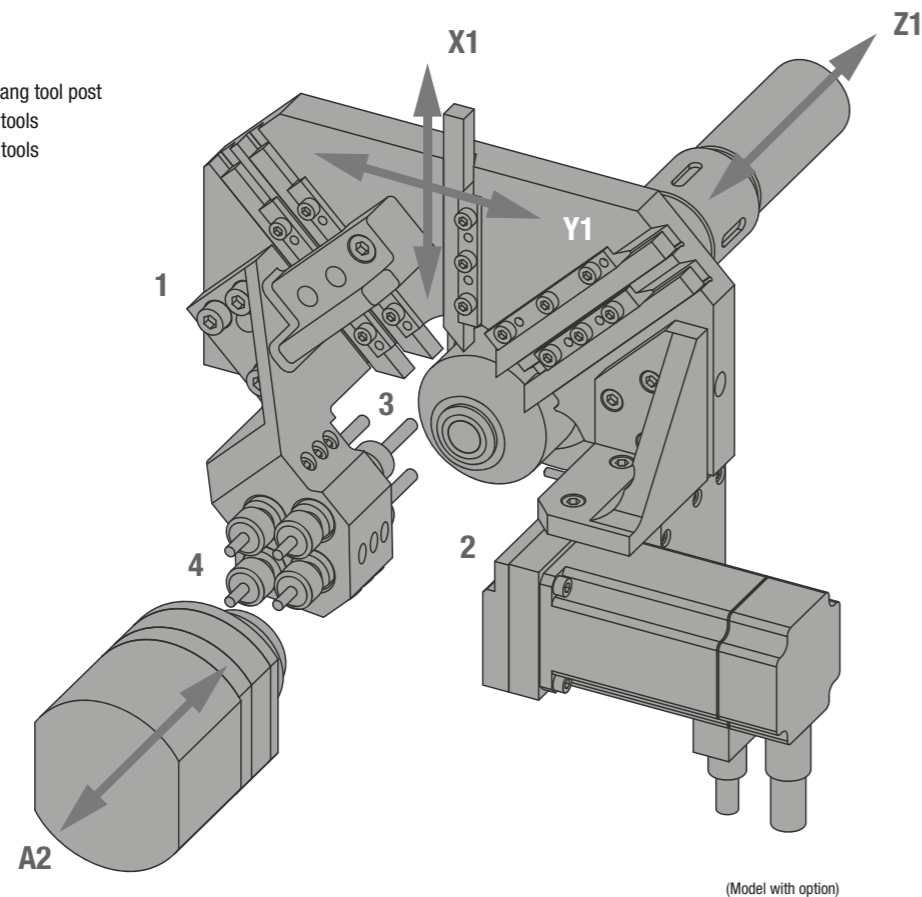
Performance diagram



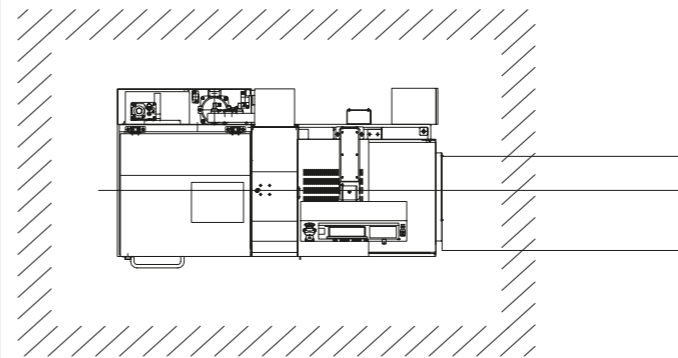
Tooling System

B12/16E type VI

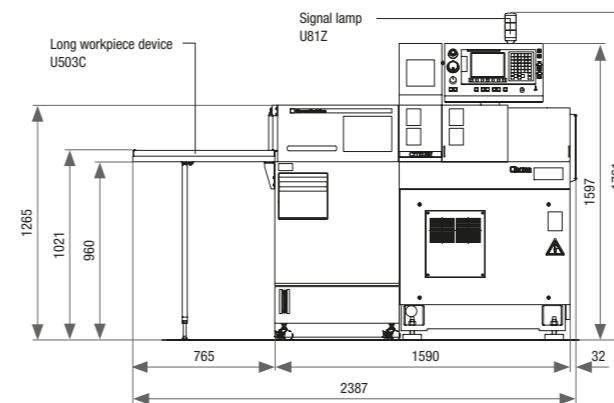
- 1 Drilling tools
- 2 Rotary tools on the gang tool post
- 3 Main spindle drilling tools
- 4 Back spindle drilling tools



Floor plan



With accessory



Machine specification

Item	B12E VI	B16E VI
Max. front spindle machining diameter	Ø 12 mm	Ø 16 mm
Max. machining length without rechucking (with RGB)	135 mm (57 mm)	135 mm (57 mm)
Max. front spindle drilling diameter	Ø 6 mm	Ø 6 mm
Max. front spindle tapping diameter	M6	M6
Spindle bore	Ø 20 mm	Ø 20 mm
Max. spindle speed Front spindle (with RGB)	12,000 rpm (8,000 rpm)	10,000 rpm (8,000 rpm)
Max. drilling diameter of rotary tools (Gang tool post)	Ø 5 mm	Ø 5 mm
Max. tapping diameter of rotary tools (Gang tool post)	M4	M4
Rotary tool speed (Gang tool post)	4,500 rpm	4,500 rpm
Max. back spindle machining diameter	Ø 12 mm	Ø 16 mm
Max. protrusion length at the back spindle	30 mm	30 mm
Max. workpiece length (w/o option for long parts)	80 mm	80 mm
Max. drilling diameter for the back spindle	Ø 5 mm	Ø 5 mm
Max. tapping diameter for the back spindle	M3	M3
Max. back spindle speed	6,000 rpm	6,000 rpm
Number of tools to be mounted	16	16
Turning tools	5	5
Rotary tools (gang tool post)	3	3
Tools for front drilling	4	4
Tools for back drilling	4	4
Shaft cross section of drilling tools	10 mm	10 mm
Sleeve diameter	Ø 20 mm	Ø 20 mm
Chuck and guide bushing		
Main spindle collet chuck	1212E/40.012	138E/40.004
Back spindle collet chuck	1212E/40.012	138E/40.004
Rotary tool collet chuck	ER8	ER8
Guide bushing (Neukomm)	F853	F605
Rapid feed rate		
X and Y axis	21 m/min	21 m/min
Z and A2 axis	15 m/min	15 m/min
Motors		
Main spindle	2.2/3.7 kW	2.2/3.7 kW
Rotary tools (gang tool post)	0.5 kW	0.5 kW
Back spindle	1.0 kW	1.0 kW
Coolant pump	0.18 kW	0.18 kW
Air pressure/air consumption	6 bar/30 NI/min (max. 50 NI/min)	6 bar/30 NI/min (max. 50 NI/min)
Machine dimensions		
Dimensions	W 1,590 x D 837 H 1,597 mm	
Weight	1,150 kg	1,150 kg
Center height	1,000 mm	1,000 mm
Standard accessories		
Main spindle chucking device		
Back spindle chucking device		
Rotary tool driving devices [gang tool post]		
Coolant device (with level detector)		
Central lubricating oil supply unit (with level detector)		
Machine relocation detector		
Door lock		
Cut-off tool breakage detector		
Lighting		
Rotary guide bushing device		
Pneumatic air sealing unit		
3-color signal tower		
Special accessories		
Chip conveyor		
Option for long workpieces		
High-pressure system		
Standard NC functions		
NC unit: Fanuc 0i-TD		
8.4 inch color liquid crystal display (LCD)		
Nose radius compensation		
Multiple repetitive cycles		
Deep drilling cycle		
Constant cutting speed		
Corner chamfering / rounding function		
User macro		
Hobbing / polygon machining function		
Spindle speed change detector		
Synchronized thread cutting		
Tool life management (I)		
1-degree indexing at front spindle		
Geometric function		
B code function		
Optional NC functions		
Tool life management (II)		
Decimal point coding		

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.

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

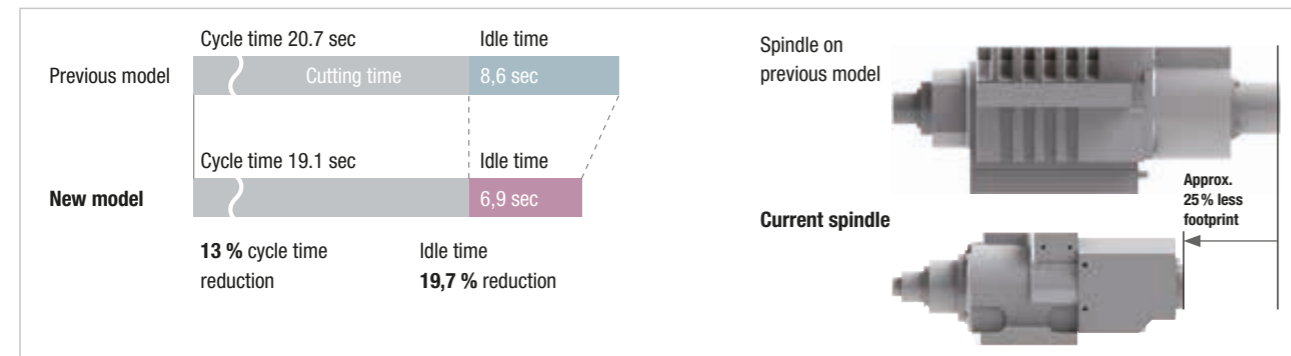


- 1 Unload chute
- 2 4-division workpiece separator
- 3 Eco screen
- 4 Workpiece removal by extraction

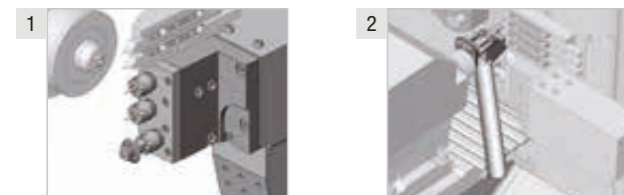
Compact high performance 20,000 rpm spindles

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. Cycle times are further improved by latest NC system with 'Streamline' which drastically reduces processing time.

Beispiel



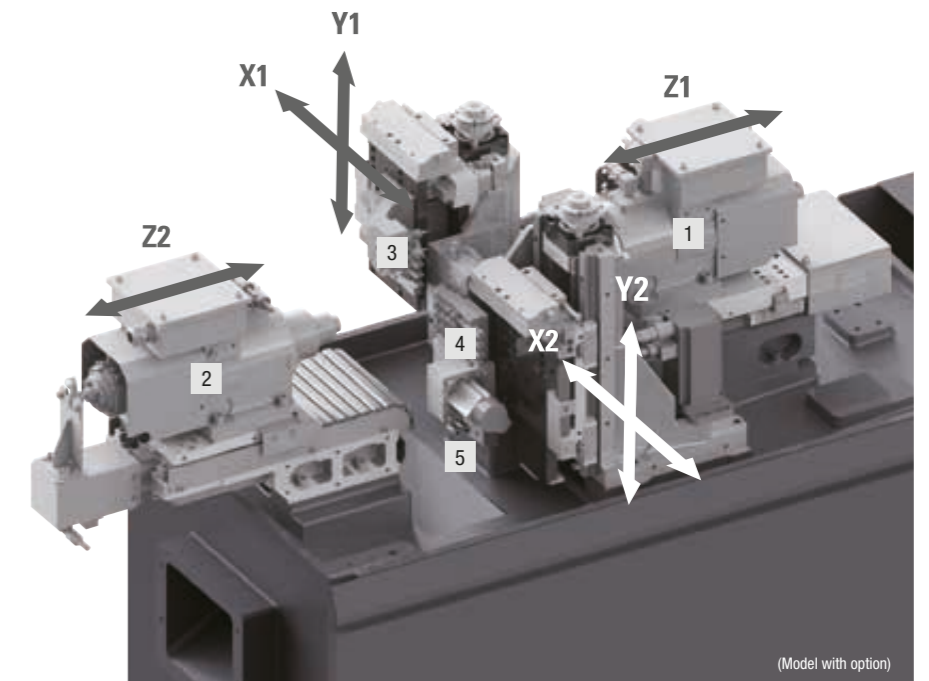
Options



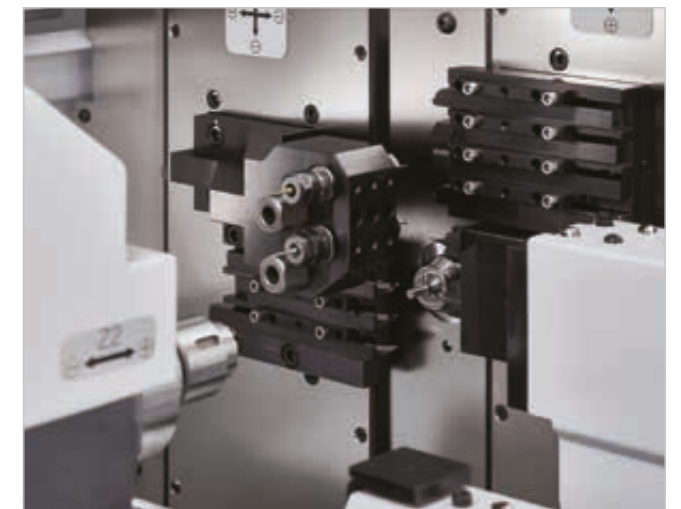
- 1 Gang tool post for 3 rotary tools (U34B)
- 2 Front collection chute

Layout

- 1 Main spindle: 1 [20.000 rpm]
- 2 Back spindle: 1 [20.000 rpm]
- 3 Drilling tools: 8
- 4 Turning tools: 7
- 5 Rotary tools: 2 [8.000 rpm]



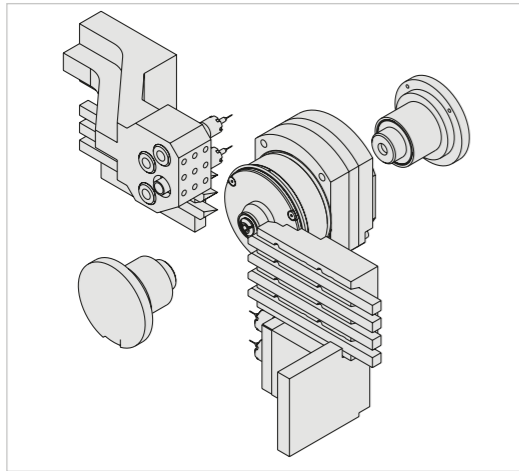
Working area



Cutting

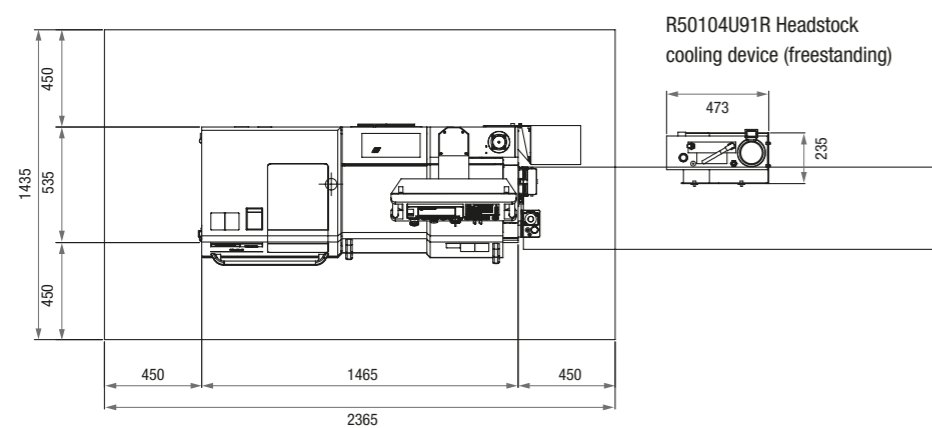
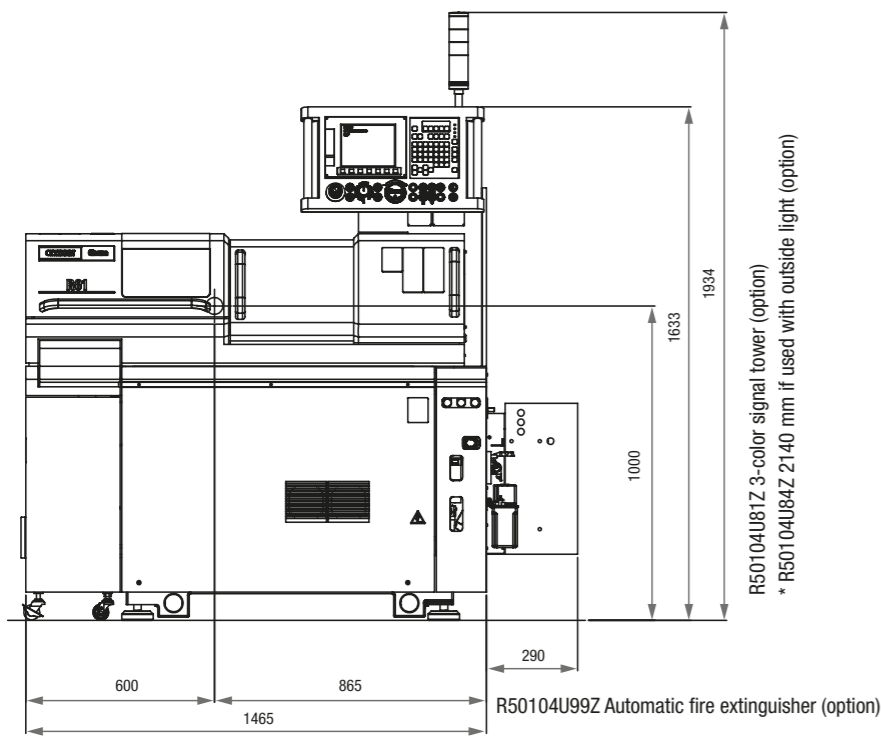
In comparison with previous models, the twin gang tool mounting capacity is increased by two turning tools and one drilling tool, thus improving the feasibility of tool layout. The rotary tools with significantly increased rigidity adopt ER11 size chucks. With the tool shift amount of the driven tools 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

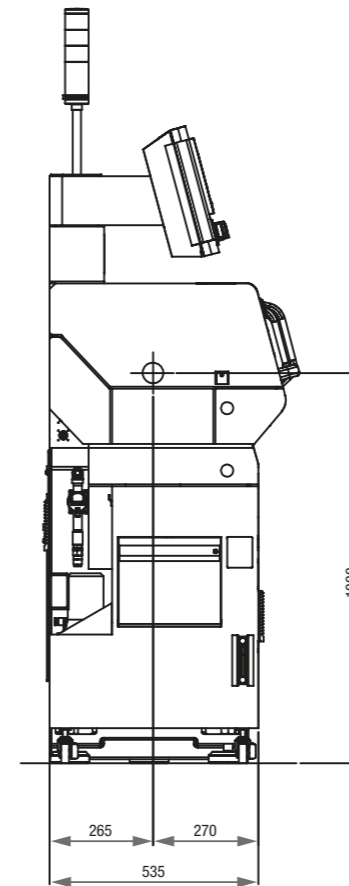


Number of tools
 4 drilling tools
 3+4 turning tools
 2 rotary tools

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 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	17/18 (Option)
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
Collet chucks/guide bush	
Collet chuck of main spindle	101E
Collet chuck of back spindle	101E
Collet chuck of driven tools	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)
Machine dimensions	
Dimensions	W 1,465 × D 535 × H 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)	

D25

New innovative control options.

**New sliding headstock automatic lathe –
with double gang tool post at the guide bush.**

The D25 sliding head automatic lathe inspires by its high motor capacity and its large variance of workpieces. It is perfectly suited for fast and complex machining processes. The innovative control unit has been designed in accordance with state-of-the-art standards and is easy to operate. Equipped with double gang tool post and one B axis (type VIII), the D25 sliding headstock type automatic lathe features extremely short machining times hand in hand with maximum productivity. The high number of workpieces of the main and back spindle keeps production cost low and offers versatile machining options – everything on a single machine. As an option, bar material of up to Ø 25 mm (32 mm option) can also be machined extending the range of workpieces even more.

Advantages

Up to 59 tools may be mounted.

Grants short machining times.

Highly flexible machining at the main spindle due to the double gang tool post.

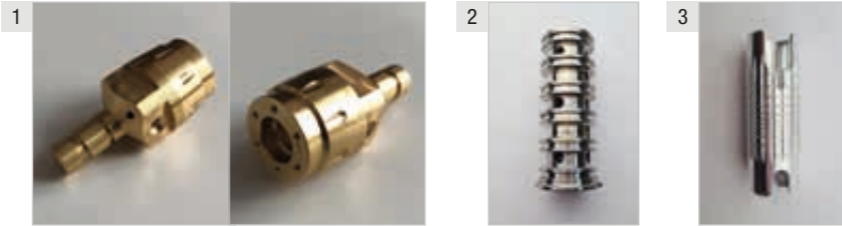
Reduced cycle times thanks to simultaneous use of several tools.

4.24 m²



Workpiece example

- Name** Hydraulic component
Material Brass
- Name** Valve piston
Material 16MnCr5
- Name** Sample part for trade fair
Material Aluminium 1.7073



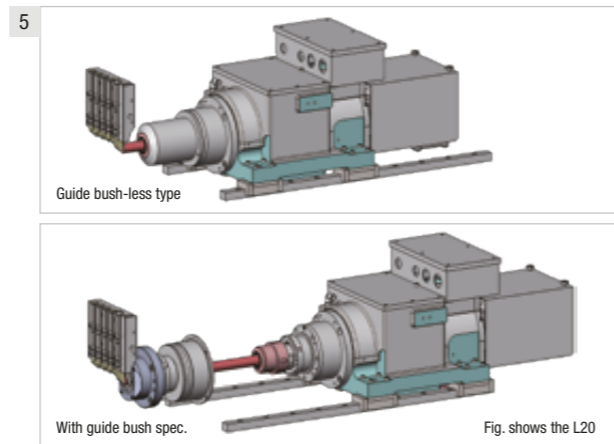
Standard



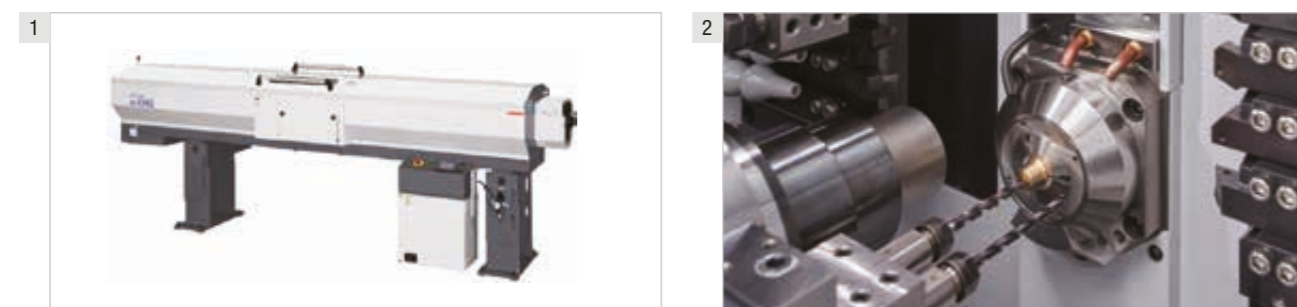
- Control unit with touch screen
- A second pump system
- Workpiece conveyor
- USB slot/SD card slot and network RS23

5 Ability to use as guide bushing type or guide bushing-less type by switching between them

The guide bushing can be fitted and removed in a quick and simple operation. The machine can be used as an automatic lathe with two roles in a single machine: as a regular guide bushing type automatic lathe when machining long thin workpieces, and as a guide bushing-less automatic lathe when using cold drawn material and to leave short remnant bars.



Options



- Barfeeder**
- Deep hole machining with the opposite tool post**
Tools for deep hole machining can be mounted on the opposite tool post. Deep hole machining to 100 mm is possible.

What is more...
LFV technology as an option



Layout

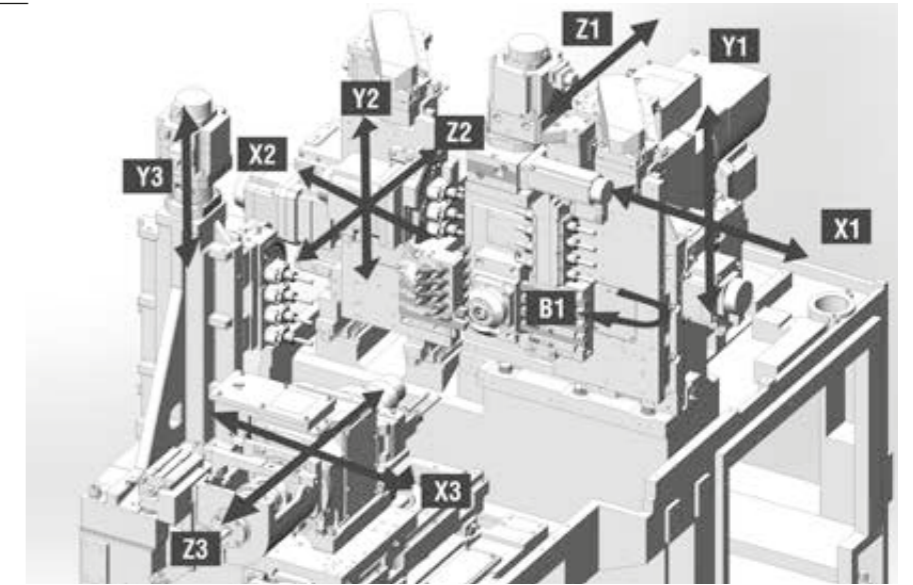
Main spindle
Max. spindle speed: 10,000 rpm

Rotary tools
Max. spindle speed: 9,000 rpm

Back spindle
Max. spindle speed: 10,000 rpm

Rotary tools for back machining
Max. spindle speed: 6,000 rpm

[X1 / Z1 / X3 / Z3 axis with LFV technology]



Type VIII (Model with option)

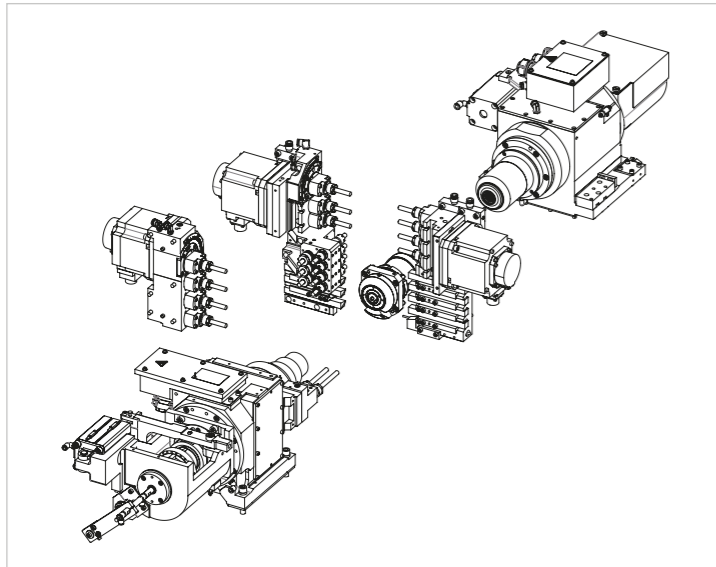
Working area



- Tool layout (Type VIII)**
- B axis (Type VIII)**
- Axis model: type VIII**
- Angle adjustable tool holder for back spindle work**
Tooling that allows manual angle adjustment (a tilt spindle) can be mounted.



Axis configuration



D25 Type VII

Total of 28 tools + α

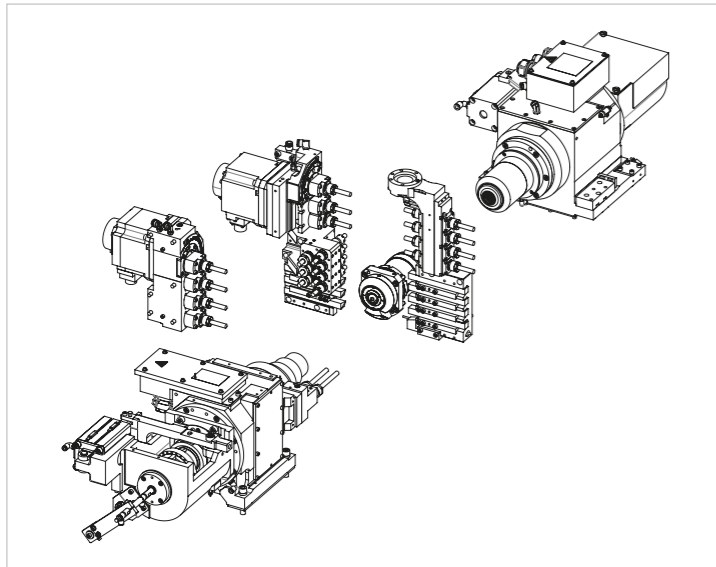
Turning tools : 7

Main spindle drilling tools: 4

Rotary tools on the gang tool post: 7 pcs.

Back spindle drilling tools: 7

Back rotary tools: 4 pcs.



D25 Type VIII

Total of 32 tools + α

Turning tools : 7

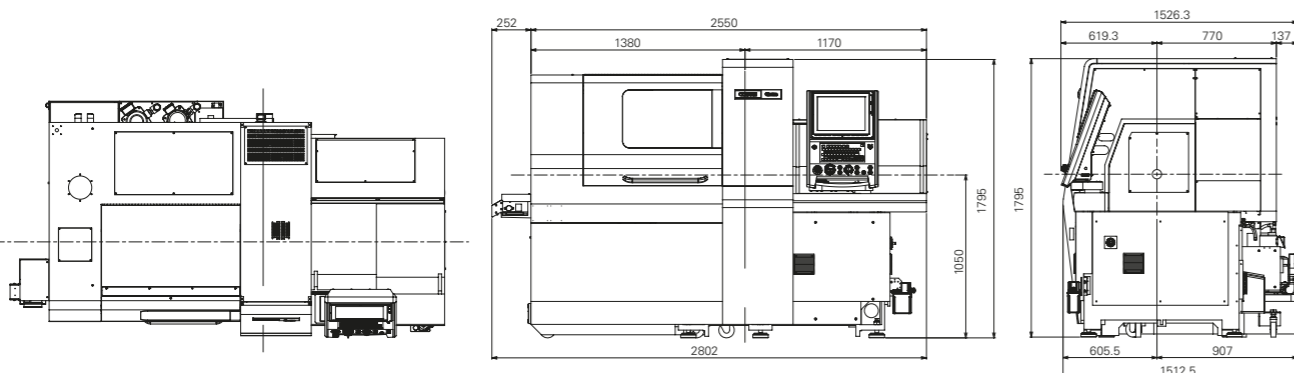
Main spindle drilling tools: 4

Rotary tools on the gang tool post: 3 stations + 4 B axis

Back spindle drilling tools: 7 + 4 B axis

Back rotary tools: 4 pcs.

Floor plan



Machine specification

Item	D25 Type VII (D25-1M7)	D25 Type VIII (D25-1M8)
Max. machining diameter (D)	Ø 25 mm	Ø 25 mm
Max. machining length	GB: 250 mm	GB: 250 mm
Max. main spindle drilling diameter	Ø 12 mm	Ø 12 mm
Max. tapping diameter for the main spindle	M10	M10
Main spindle speed	Max. 10,000 rpm	Max. 10,000 rpm
Max. drilling diameter by rotary tool on gang tool post	M8	M8
Rotary tool speed on the gang tool post	Max. 9,000 rpm	Max. 9,000 rpm
Max. chuck diameter of the back spindle	Ø 25 mm	Ø 25 mm
Max. workpiece protrusion length from the back spindle	50 mm	50 mm
Max. drilling diameter for the back spindle	Ø 12 mm	Ø 12 mm
Max. tapping diameter for the back spindle	M10	M10
Back spindle speed	Max. 10,000 rpm	Max. 10,000 rpm
Number of tools Standard (Max.)	35 (59)	35 (43)
Turning tools	7 – 13	7 – 9
Front drilling tools	4 – 23	4 – 13
Front cross drilling tools	7 – 12	7
Back drilling tools	6 – 35	6 – 25
Back cross drilling tools	4 – 6	4 – 6
Tool size		
Turning tools	16 mm sq.	16 mm sq.
Sleeve diameter	25.4 mm sq.	25.4 mm sq.
Collet chucks and guide bush		
Collet chuck of main spindle	157E	157E
Collet chuck of back spindle	157E	157E
Guide bush	T227	T227
Rapid feed rate		
All axes (excluding Z2)	32 m/min	32 m/min
Z2 axis	24 m/min	24 m/min
Motors		
Motor spindle drive	3.7/ 5.5 kW	3.7/ 5.5 kW
Motor For driving rotary tools on the gang tool post	2.2 kW	2.2 kW
Back spindle drive	2.2/ 3.7 kW	2.2/ 3.7 kW
Motor for rotary tools for back machining	1.0 kW	1.0 kW
Rated power consumption	13 KVA	13 KVA
Total load current	33 A	33 A
Air unit		
Required pressure	0.5 MPa (5 kgf/ cm ²)	0.5 MPa (5 kgf/ cm ²)
Flow rate	Up to 60 NL/min (Power on) Up to 180 NL/min (With air blow)	Up to 60 NL/min (Power on) Up to 180 NL/min (With air blow)
Tank capacity		
Central lubrication device capacity	0.8 L	0.8 L
Coolant tank capacity	300 L	300 L
Machine dimensions		
Machine height	1,795 mm	1,795 mm
Required floor surface area	2,440 × 1,380 mm	2,440 × 1,380 mm
Center height	1,050 mm	1,050 mm
Weight	3,450 kg	3,450 kg
Main standard accessories		
Main spindle chucking unit; Back spindle chucking unit; Cut-off tool breakage detector; Workpiece conveyor; Rotary tool drive device of the gang tool post; Machine internal lighting; Coolant unit (with level detector); Rotary guide bushing drive unit; Central lubricating oil supply unit (with level detector); Spindle cooling unit; Machine relocation detector; Door lock		
Special Accessories		
High-pressure system; Oil mist evacuation; Chip conveyor; Option for long workpieces; LFV		
NC standard functions		
NC unit M850W; 15-inch XGA touch panel; User-opened disk capacity of 10 MB; Program storage capacity: 160 m (Approx. 64 KB); Tool offset pairs: 99; Preparing operation functions; On-machine program check function; Operating time display function; USB slot; Door lock; Interference check function; Automatic thermal displacement compensation function; Impact detection function; Spindle speed change detection; Constant surface speed control (G96); Nose radius compensation; B-axis control function *Type VIII; C-axis function of the spindles; Back spindle 1° indexing function; Network I/O function; Milling interpolation; Canned cycle drilling; Geometric command function; Chamfering/Corner R function		
Special NC functions		
Arc threading function; Variable lead thread cutting; Differential speed rotary tool function; User macros; Helical interpolation function; High-speed synchronized tapping function; User-opened disk capacity of 100 MB; Program storage capacity: 4,800 m (1,920 KB); Tool life management I; Tool life management II; Optional block skip (9 sets); Sub inch command; 3D chamfering function		

MC20

Machining cell with several stations for the individualized mass production (mass customization).

By combining three machining modules in a multi-station configuration, the MC20 will support a variety of machining layouts to enable ultra-high productivity levels. Machining processes can also be optimized through the Cincom dynamic control software that supports highly flexible operations thus making (mass customization) a reality.

Advantages

Workpiece transfer between spindles and in-machine loader.

Optimization of machining processes through transfer.

Accuracy.

Excellent operability allowing intuitive use of multiple functions.

LFV technology on each spindle.

Individual machine configuration.

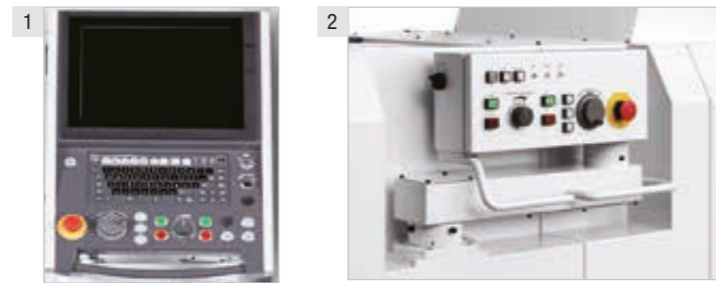


4.10 m²

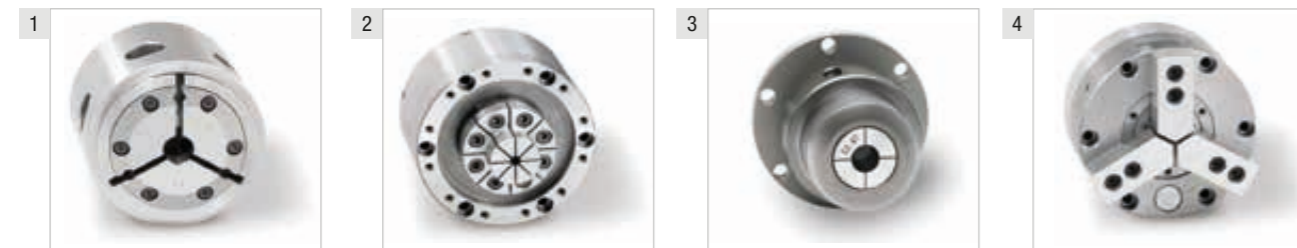


Standard

- 1 Main operation panel of new control unit
- 2 Sub operation panel



Options



- 1 Power chuck**
 Gripping diameter: $\varnothing 8 \sim \varnothing 45$
 Max. spindle speed: $6,000 \text{ min}^{-1}$
 (Restriction applied depending on jaw height)
- 2 Pull lock chuck**
 Gripping diameter: $\varnothing 8 \sim \varnothing 45$
 Max. spindle speed: $6,000 \text{ min}^{-1}$
- 3 Fixed type collet chuck (Cincom collet chuck)**
 Gripping diameter: $\sim \varnothing 20$
 Max. spindle speed: $8,000 \text{ min}^{-1}$
- 4 Precision chuck**
 Gripping diameter:
 For outer diameter gripping $\varnothing 4 \sim 60$
 For inner diameter gripping $\varnothing 10 \sim 60$
 Max. spindle speed: $6,000 \text{ min}^{-1}$
 (Restriction applied depending on jaw height)
- 5 Medium-pressure coolant (1.5 MPa)**
 Enables efficient chip removal by discharging coolant directly from the tool post.
- 6 Chip conveyor (Hinge Type)**
 Expels chips automatically and enables unmanned operation over a prolonged time.
- 7 Tablet PC**
 It can be used when removed from the dedicated holder.



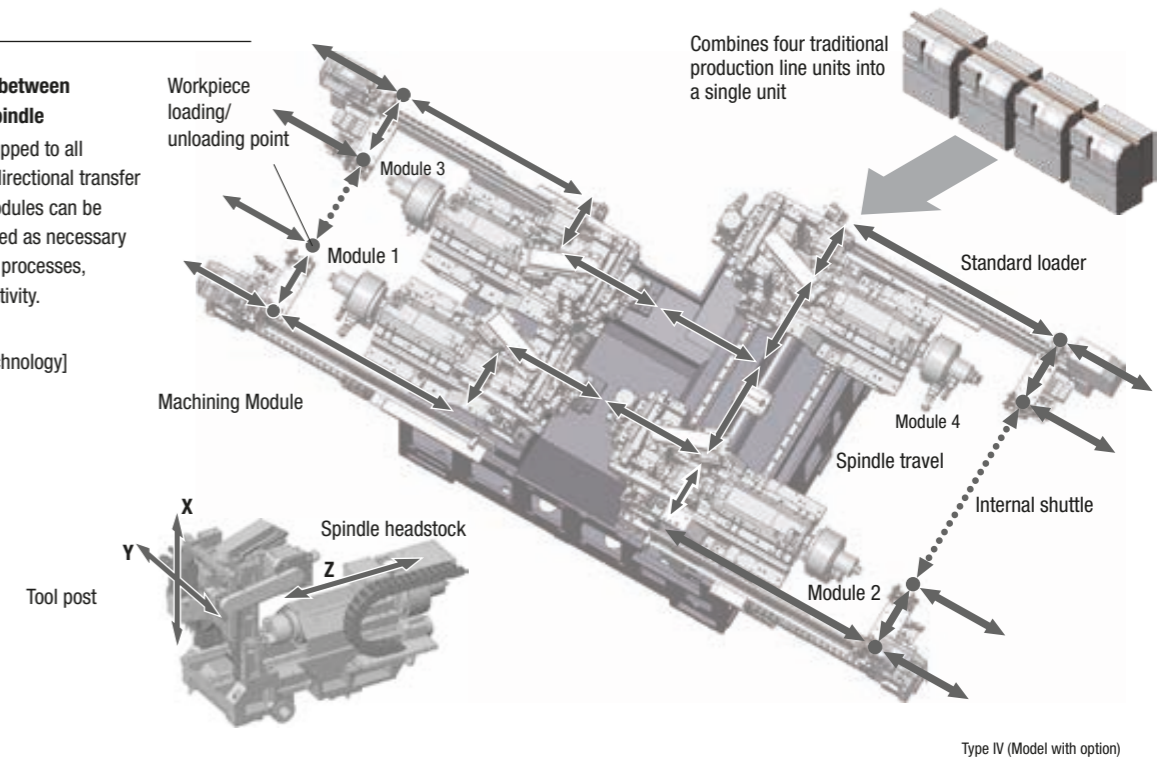
What is more...
LFV technology as an option



Layout

Workflow with transfer between standard loaders and spindle
 Standard loaders are equipped to all modules to provide omnidirectional transfer points to nearby units. Modules can be made independent or linked as necessary to allocate the machining processes, thereby improving productivity.

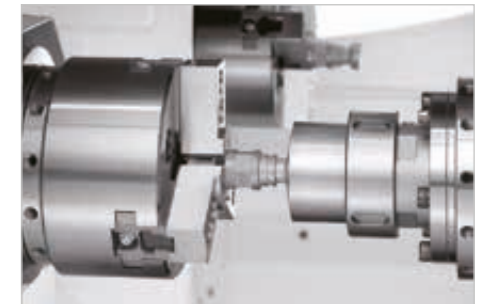
[X and Z axis with LFV technology]



Working area

Workpiece transfer between spindles and in-machine loader
 Workpieces are transferred between modules with spindles that are aligned extremely accurately. This makes gantry loaders unnecessary, avoiding the problems and drops in machining accuracy that have tended to occur when transferring workpieces, and realizing high-speed transfers.

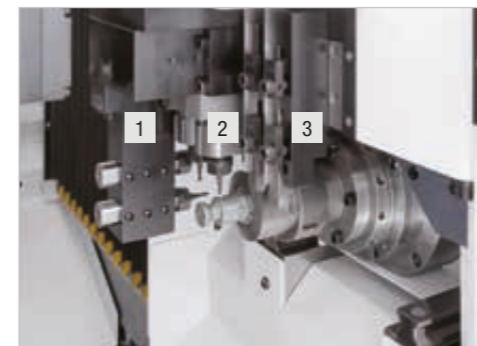
Tremendously Improved Productivity per Unit Area
 With the MC20, a production line consisting of three single spindle CNC automatic lathes can be integrated into a single machine unit, making it possible to maintain the same production capacity but drastically improve the productivity per unit area.



Transfer between spindles (SP1 and SP2)



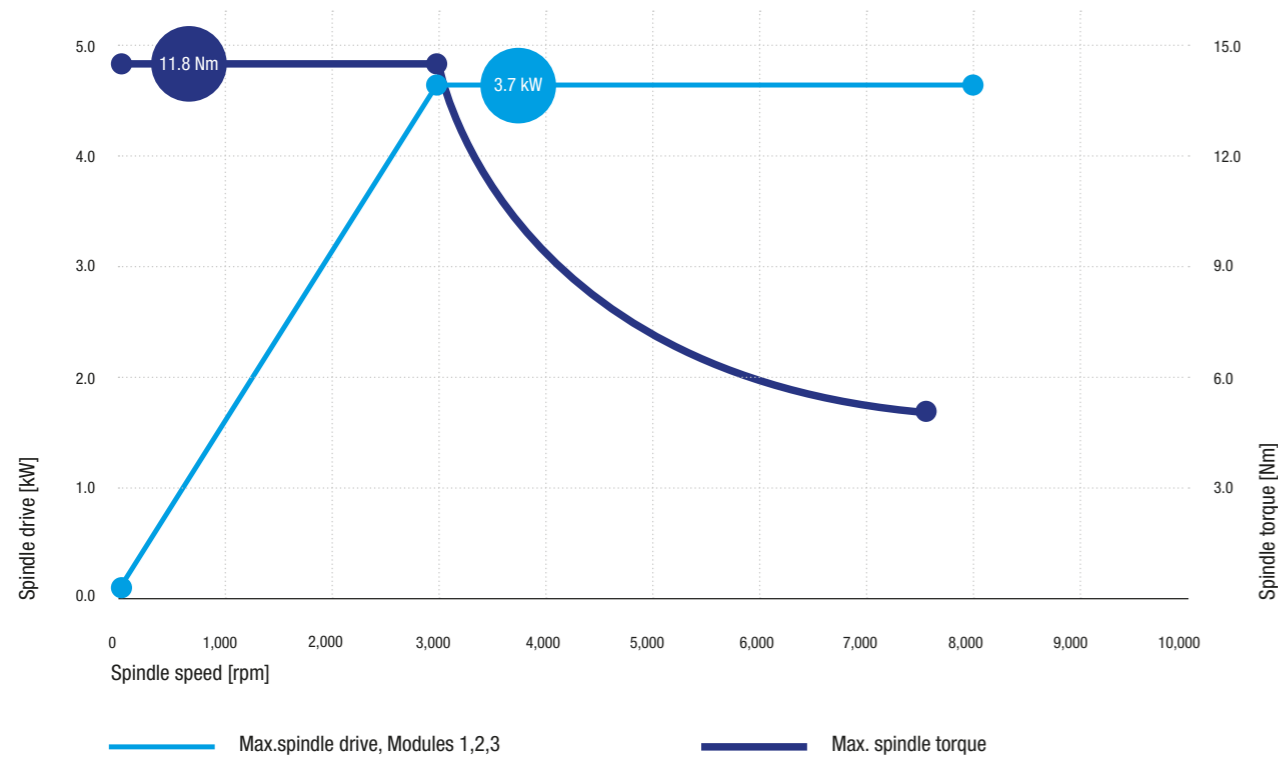
In-machine Loader



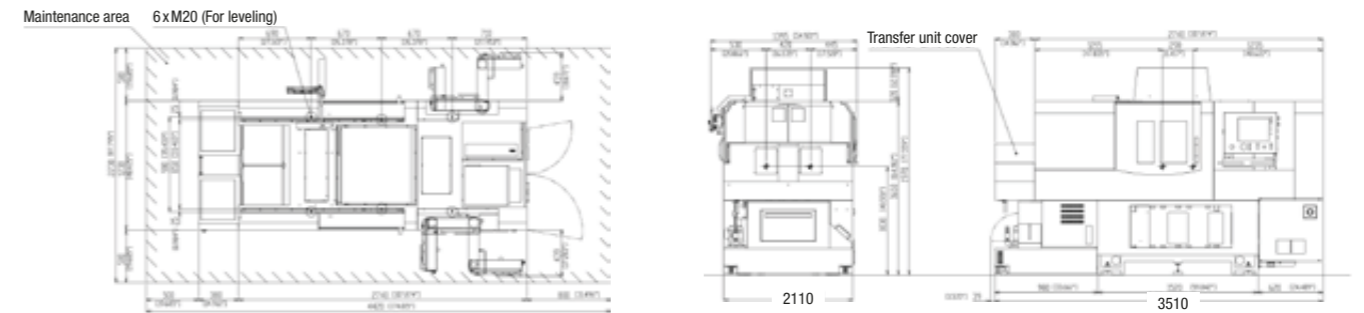
- 1 Sleeve holder
- 2 Cross rotary tools
- 3 Turning tools on the gang toolpost

Varied tooling systems
 Tooling can be freely selected according to the machining process. A maximum of 18 tools (6 tools x 3 modules) can be mounted. A maximum of 9 cross rotary tools (3 tools x 3 modules), and 12 end-face rotary tools (4 tools x 3 modules) can be mounted.

Performance diagram



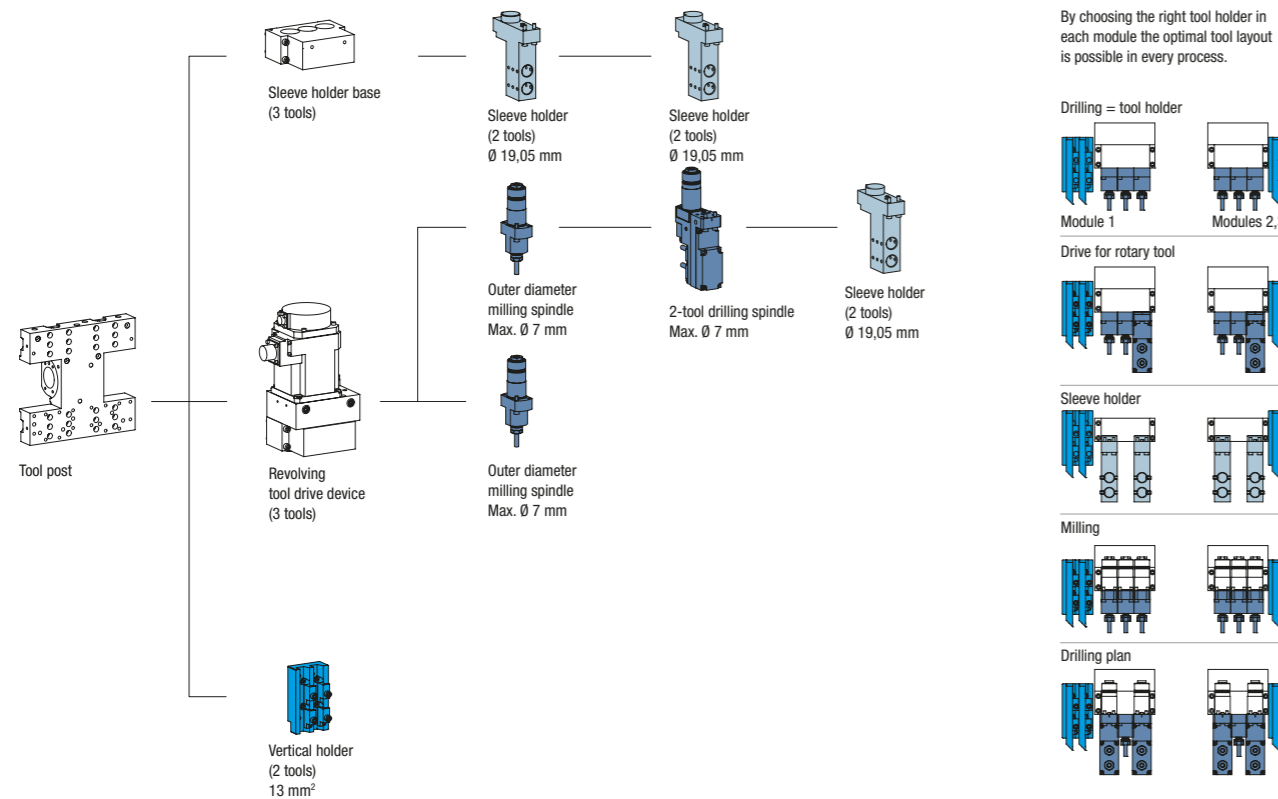
Floor plan



Machine specification

Item	MC20 IV (MC20-3M4)	Main standard accessories
Chuck size	4-inch chuck	Main spindle chucking unit, Spindle cooling unit, Emergency stop box
Max. through-spindle workpiece diameter	20 mm	Machine relocation detector, Gang rotary tool drive unit
Maximum work length	70 mm	Workpiece loading unit set (for Module 1 and Module 4)
Max. drilling diameter with the spindle	7 mm	Door lock
Max. tapping diameter with the spindle (Cutting tap)	M6	
Spindle speed	Max. 8,000 rpm (differs depending on the chuck type)	
Gang rotary tools		
Max. drilling diameter	5 mm	
Max. tapping diameter	M5	
Spindle speed	Max. 8,000 rpm	
Number of tools to be mounted (standard machining specification)		
Turning tools	2	
Cross drilling tools	3	
Number of tools to be mounted (turning / cross machining / end-face machining specification)		
Turning tools	2	
Cross drilling tools	2	
End-face drilling tools	2	
Number of tools to be mounted (full tooling capability)		
End-face sleeve	4	
Cross drilling tools	1	
End-face drilling tools	4	
Tool size		
Tool (gang)	<input type="checkbox"/> 12 mm	
Sleeve	19.05 mm, 20 mm	
Rapid feed rate		
Xaxis	32 m/min	
Yaxis	32 m/min	
Zaxis	32 m/min	
A axis	40 m/min	
Motors		
For spindle (built-in motor)	2.2/3.7 kW	
Rotary tools on the gang tool post	0.75 kW	
Coolant pump	0.18 kW × 2; 0.25 kW × 2	
For medium-pressure coolant	0.75 kW × 3	
Loader axis motor	0.2 kW × 2	
Center height	1,060 mm	
Rated power consumption		
	22 kVA	
Total load current		
	88 A	
Main breaker capacity		
	125 A	
Pneumatic unit / Required pressure		
Required flowrate	310 NI/min	
Machine dimensions	W 3,510 × D 2,110 × H 2,000 mm	
Weight	5,000 kg	
Special Accessories		
Work pusher, Pneumatic unit for checking spindle seating		
Workpiece loading unit set (for Module 2 and Module 3)		
Pneumatic unit for chuck air blow		
Pneumatic unit for spindle rear air blow		
Pneumatic unit for workpiece hand air blow		
Pneumatic unit for tool air blow, Coolant unit (scrapping type)		
Coolant flow rate detector, Medium-pressure coolant unit		
Foot switch, Tablet, 3-color signal tower		
Automatic fire extinguishing unit, Fire damper		
Material feeder interface (with cut-off check function), LFV (low frequency vibration cutting)		
NC standard functions		
Preparation functions, Background editing		
On-machine program check function, High-speed program check function		
Axis feed overlap function, Spindle speed change detector		
Chamfering/Corner R, Nose radius compensation, Circular interpolation		
Canned cycle for threading, Canned cycle for composite turning		
Product counter indication (8 digits), Obstruction check function		
Program storage capacity: 160m (Approx. 64KB)		
15-inch touch panel		
Automatic power-off function		
Input/output I/F (RS232C, CompactFlash, USB)		
Sync tapping function, Canned drilling cycle		
Constant surface speed control		
Milling interpolation		
Geometric function		
Special NC functions		
Program storage capacity: 1200 m (Approx. 480KB)		
User macros, Submicron commands		
Differential speed, rotary tools		
Tool life management I, tool life management II, external memory program operation, polygon function		
Hobbing function, helical interpolation function, inclined helical interpolation function		
Variable lead thread cutting		
Arc threading, 2-System simultaneous threading III		
Coordinate rotation command function, User macro G-code call		
High-speed synchronized tapping function, Optional block skip (9 sets)		

Tooling System



LFV- Technology

New Perspectives – thanks to Low Frequency Vibration (LFV) Cutting.

LFV – standing for “Low Frequency Vibration” cutting – is a brandnew universally applicable and highly efficient cutting technology which allows machining virtually any part geometries from a highly diverse range of materials. While doing so, defined chip breaking significantly reduces the frequency of unnecessary machine stops caused by long chips.

Our machines equipped with LFV technology efficiently handle defined chip breaking when cutting difficult-to-machine materials thanks to their special control technology.

Advantages

Cutting resistance is lowered.

No built-up edge is formed.

No unnecessary machine stop.

Tool life is extended.



Thanks to the LFV technology, long chips are finally a thing of the past - this protects your lathe and optimizes the cutting process.



Defined chip breaking

The controlled chip breaking may be done in three different modes:

Machines with LFV-Technology

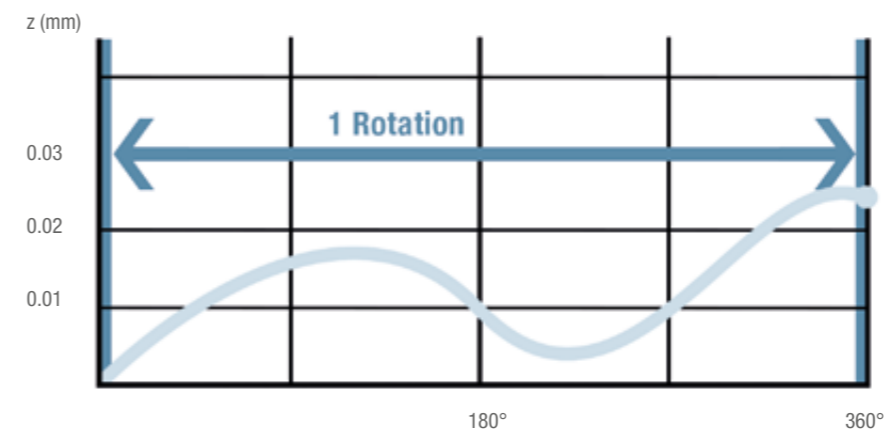
Machine	Type	Axes with LFV	Mode 1	Mode 2	Mode 3
CINCOM					
M32	V	X1 / Z1 / X3 / Z3	x	x	x
	VIII	X1 / Z1 / X3 / Z3	x	x	x
L32	VIII	X1 / Z1 / X2 / Z2	x	x	x
	X	X1 / Z1 / X2 / Z2	x	x	x
	XII	X1 / Z1 / X2 / Z2	x	x	x
L20	VIII	X1 / Z1 / X2 / Z2	x	x	x
	X	X1 / Z1	x	x	x
	XII	X1 / Z1	x	x	x
L12	VII	X1 / Z1 / X2 / Z2	x	x	x
	X	X1 / Z1 / X2 / Z2	x	x	x
A20	VII	X1 / Z1 / X2 / Z2	x	-	-
D25	VII	X1 / Z1 / X3 / Z3	x	x	x
	VIII	X1 / Z1 / X3 / Z3	x	x	x
MC20	III	X / Z	x	x	x
	IV	X / Z	x	x	x

MIYANO

BNA-42GTY	X1 / Z1	x	x	x
VC03	X / Z	x	x	x
ANX-42SYY	X1 / Z1 / X2 / Z2	x	-	-

Mode 1

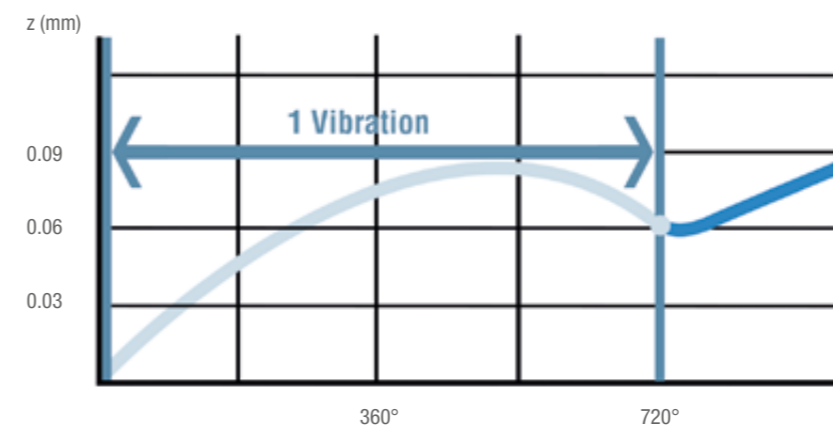
Specifies the number of vibrations for one spindle rotation.



If short swarfs are desired.

Mode 2

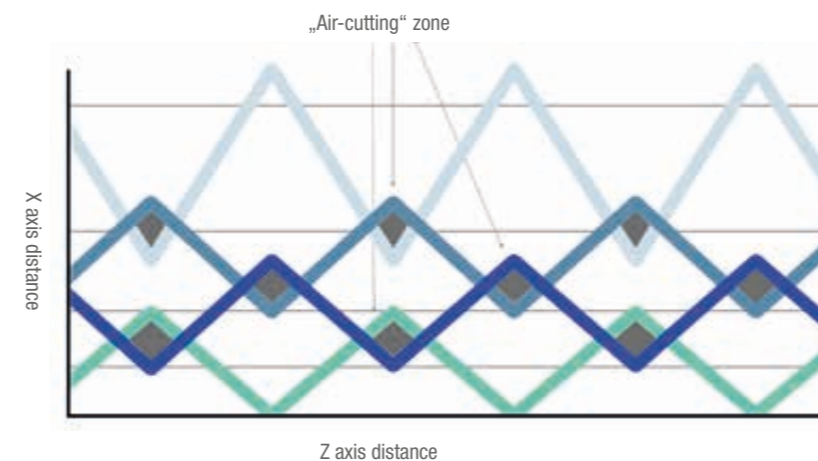
Specifies the number of spindle rotations per vibration.



If high circumferential speed for finish or depth machining with small diameter is desired.

Mode 3

Allows for turning threads.



If chip breaking when turning threads is desired.

ATC- Technology

We have developed a B-axis ATC (Automatic Tool Changer) while keeping the operability of the best-selling L20 machine unchanged.

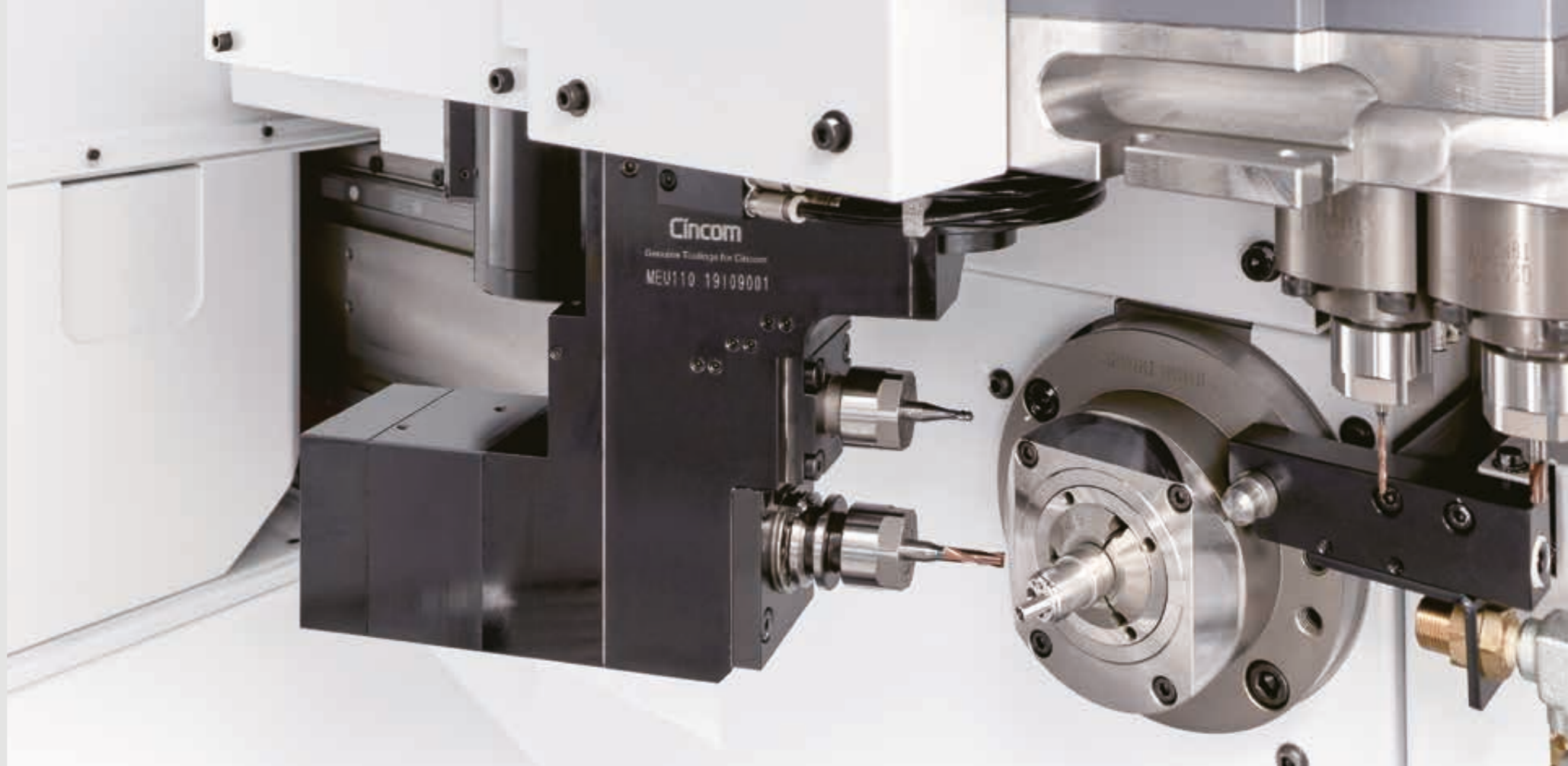
Citizen's unique, compactly designed ATC tooling with B-axis can be mounted on the gang tool post to enable use of a total of 13 front machining B-axis tools, comprising 12 ATC tools and one tool built into the tooling. (L20XII dedicated option)

Advantages

With the L20's operability unchanged, using the ATC tooling in conjunction with existing turning tools and cross machining rotary tools combines the machining speed of a Swiss-type automatic lathe thanks to the gang tool post. With the versatility of a B-axis turning center equipped with an ATC.

The capability for machining complex parts like medical parts including implants, the ATC provides an environment where the tool setting for machining several types of workpieces can be completed in a single setup.

B-axis machining, the ATC tooling can also be used in a wide range of applications such as those with a lot of cross/ end face machining, utilizing a wealth of tool variations including slitting/hobbing.



Automatic Tool Change



1 During B-axis machining
2 During an Automatic Tool Change

Tool holder/ sample workpiece



Technical data

Key feature	
Max. rotary tool speed on ATC tooling	12,000 min ⁻¹
Motor output	2.2 kW
Tool holder type	JBS-15T
Number of B-axis tools	12 (magazine) + 1 (built-in)
Total number of tools mountable on machine	34 max. (including B-axis tools)
Tool change time (chip-to-chip)	4.0 sec
Maximum tool outer diameter	30 mm
Maximum tool gripping diameter	10 mm (ER16)

Laser-Technology

The hybrid system from Citizen – precision turning and laser cutting/welding.

Thanks to a state-of-the-art conversion kit, it has become possible to expand the functionality of a lathe by laser technology and enhance the metal processing range significantly.

The laser primarily adopts the part of a cutting tool, can also weld, supplements the usual cutter and replaces the latter in microscale applications. The strength of the hybrid system, comprising a lathe plus a laser system, lies in the repeatability as all sub-processes are handled on just one machine. This saves acquisition costs for a new stand-alone laser machine and also production costs when distributing the manufacturing process between two machines.

Advantages

Filigree cutting.

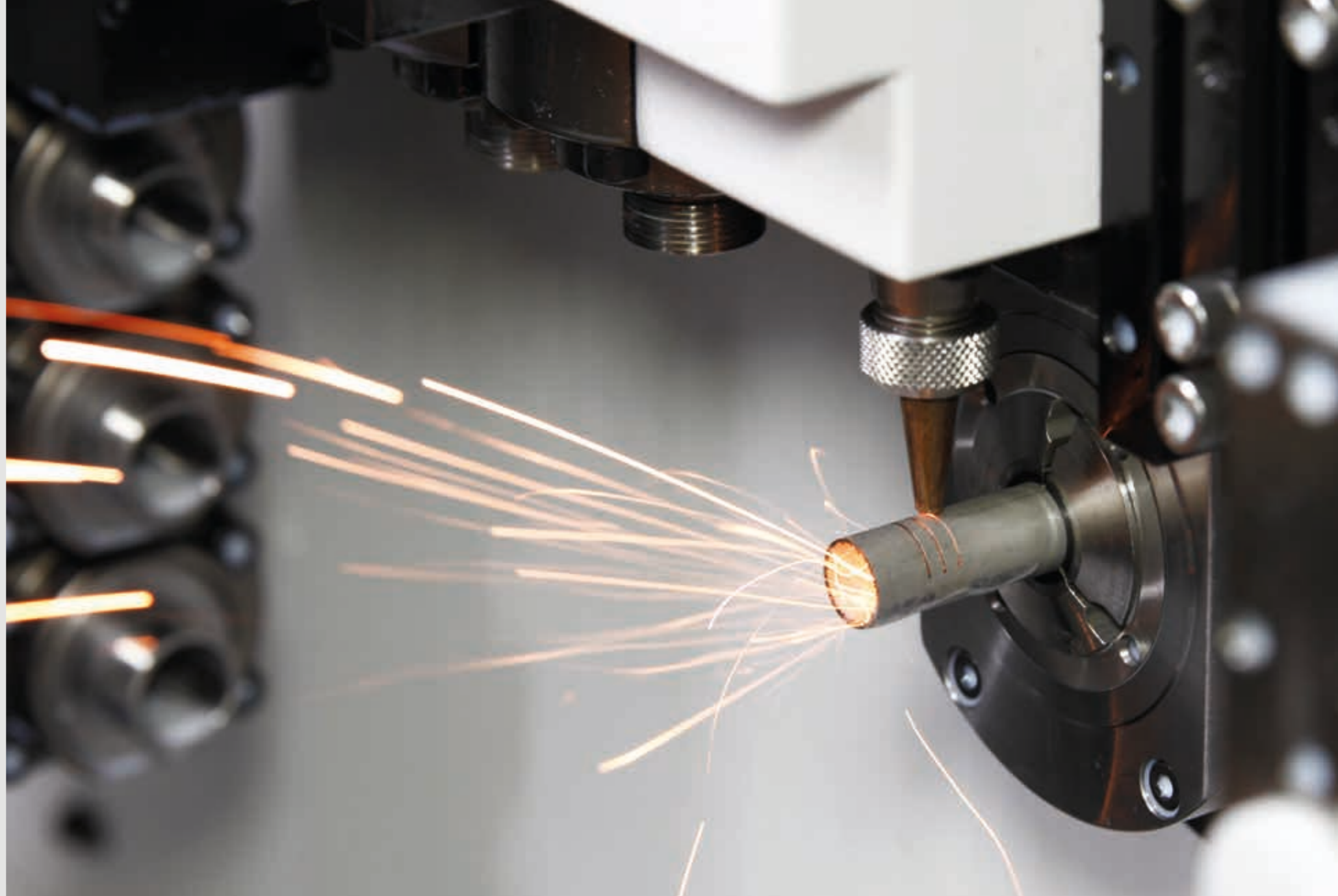
Corner radius close to 0.

Excellent beam quality.

High machining speed.

Long service life (approx. 20,000 hours).

Turning and laser machining on one machine.



Laser cutting enables the cutting out of complex filigree structures in thin materials. Cutting process dynamics may directly be influenced by the parameters laser power, beam quality and wavelength of the laser light as well as the focus diameter.

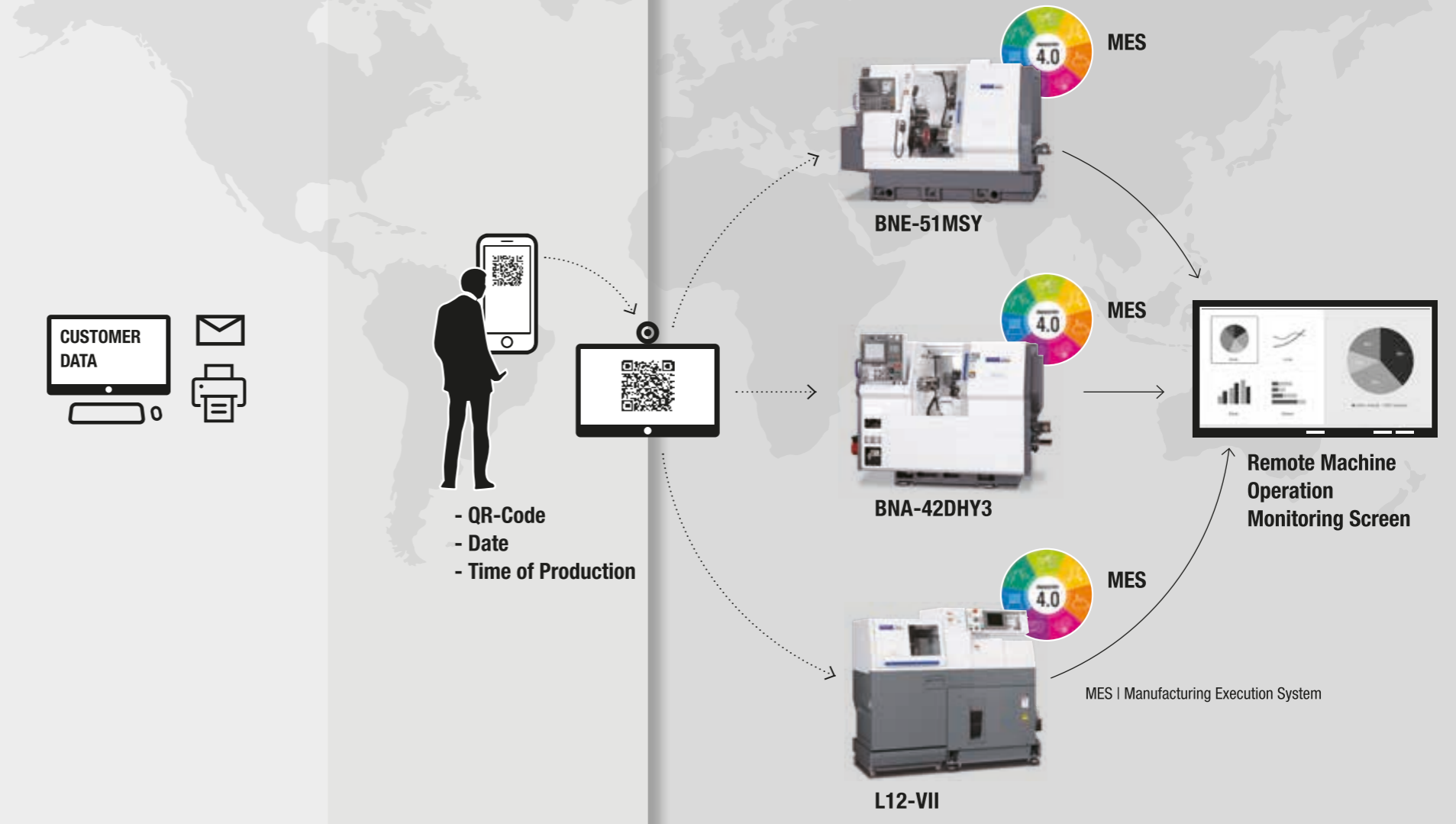
Industry 4.0

Industry 4.0 – trailblazing, digital transformation.

Thanks to progressive digitization, production steps within one machine – or also within several machines combined – may be monitored and documented in a more efficient way. The networking of machines is the key to process optimization and puts the economical factor first. Using integrated sensors, the permanent supervision of the machine functions is granted which benefits the maintenance system during operation. Via remote maintenance, access to the machines from anywhere is possible and digital intervention may solve serious problems in case of an emergency. This not only saves time but also unnecessary field service calls. Industry 4.0 pursues the target of achieving optimum machine availability due to digital networking.



01 02 03



Industry 4.0

Monitoring and controlling by sensor technology.

The sensors installed in the lathe detect parameters of the following measuring units: Temperature, acceleration and vibrations. Errors in the process sequence is detected by the sensors and directly transmitted to the PC of the operator in charge. In case of machines integrated in a production chain, a signal is sent to cooperating machines to make them stop the production. If e.g. an error occurs at the unloading unit, the production at lathe and loading system will be interrupted until the error is removed.

To grant a smooth exchange of data between the operating systems and make all units involved „speak the same language“, Citizen cooperates with a provider specialized in interface connections who bundles up a wide variety of computer languages to one common one.

01

The added value of Citizen Lathes.

Maintenance

Installed sensors check the temperature during the turning process and trigger an alarm in case overheating occurs at axes or spindles. The operating conditions may be queried at any time and even the smallest irregularities are indicated right away.



Barfeeder

02

Remote maintenance

If necessary, the machines connected to the network can be checked by a service technician via remote diagnosis. The remote diagnostics helps to avoid unnecessary machine stops, because the cause of defect can be identified beforehand and measures can be coordinated.



Machine

03

Process automation

CNC lathes can communicate technology-based and coordinate processes. The automation can also take place between barfeeder, lathe and unloading magazine to optimize the successive processes.



Unloading system

Citizen Machinery UK

1 Park Avenue | Bushey | WD23 2DA | United Kingdom
Tel. +44 [0]1923 / 691-500
sales@citizenmachinery.co.uk | www.citizenmachinery.co.uk

Turning Centre of Excellence
Narrowboat Way, Hurst Business Park
Brierley Hill
DY5 1UF, UK

Japan | Citizen Machinery Co., Ltd. | 4107-6 Miyota, Miyota-machi, Kitasaku-gun, Nagano-ken, 389-0206, Japan, Tel. 81-267-32-5901, Fax 81-267-32-5908 | **South Asia – Korea** | Citizen Machinery Co., Ltd. | 4107-6 Miyota, Miyota-machi, Kitasaku-gun, Nagano-ken, 389-0206, Japan, Tel. 81-267-32-5916, Fax 81-267-32-5928 | **Cincom Miyano Taiwan Co. Ltd.** | 10Fl., No. 174, Fuh sing N. Rd., Taipei, Taiwan, Tel. 886-2-2715-0598, Fax 886-2-2718-3133 | **Citizen (China) Precision Machinery Co. Ltd.** | 10058, Xinhua Road of Zhoucun, Zibo, Shandong, P.R. China Tel. 86-533-6150560, Fax 86-533-6161379 | **Europe – Germany** | Citizen Machinery GmbH | Mettinger Straße 11, 73728 Esslingen, Tel. 49-711-3906100, Fax 49-711-3906106 | **Europe – Italy** | Citizen Macchine Italia s.r.l. | Via Campo Romano 11/13 – 24050 Spirano (BG), Italy, Tel. 39-035-877738, Fax 39-035-876547 | **Europe – Spain** | Egasca S.A. | Polígono Industrial Erisono, 2 | 20600 - Eibar Gipuzkoa, Spain | Tel. +34-943-200-300 | **Europe – France** | Hestika France | 1385 Avenue du Mole | ZAE des lacs 3, 74130 AYZE, Tél. +33 04 50 98 52 69

Images may differ from the original. Technical data is subject to change without notice. The product falls under the export regulations and is subject to the foreign exchange and external trade law. Before exporting this product please refer to your CITIZEN dealer. Please also contact your CITIZEN dealer before you intend to resell, export or take this product somewhere else. Any copy of this product no matter whether in whole or in parts as well as its relating technologies and software is forbidden. In case of export the export licence issued by the competent authorities has to be presented to CITIZEN. The machine operation may be started upon confirmation and approval by CITIZEN. CITIZEN is a registered trademark of Citizen Watch Co. Japan. Subject to technical changes and error. Specifications only apply to the European market. Published 08/2021