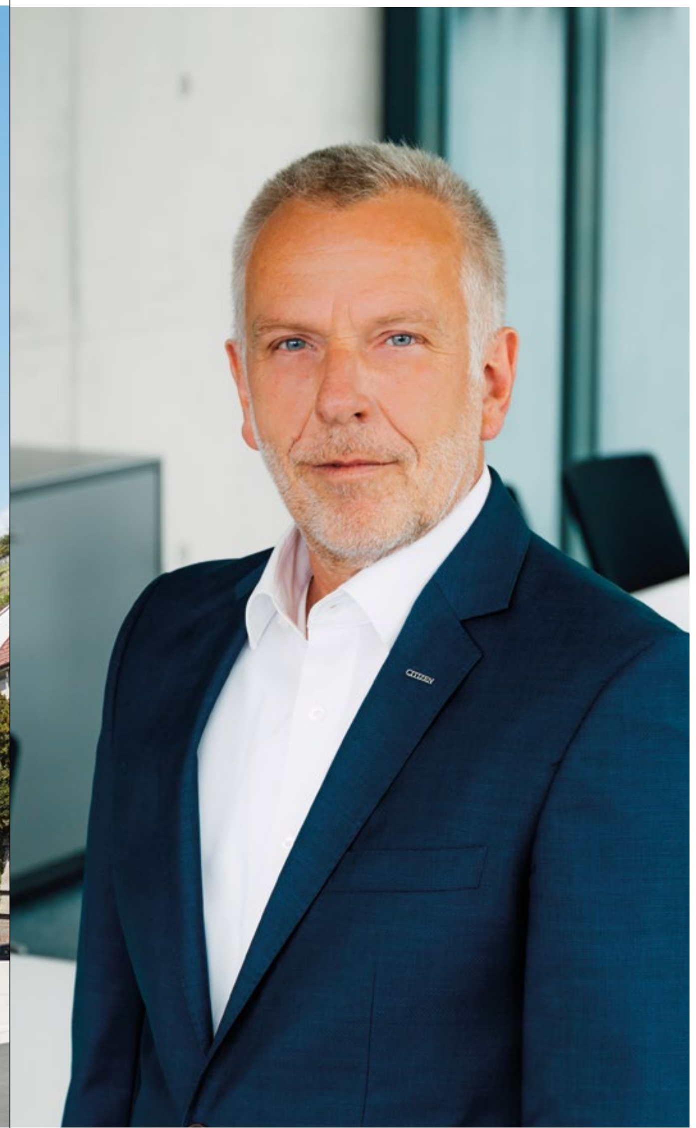
CITIZEN

Cincom



Preface

Dear Readers,

Citizen Machinery Europe GmbH has successfully been selling Swiss type lathes and fixed head automatic lathes of the brands Cincom and Miyano all over Germany and in large parts of Europe for many decades. With our 4 locations in Esslingen, Villingendorf, Neuss and Radebeul, we are always personally at your disposal and always in close vicinity throughout Germany to answer your questions regarding sales and other issues. In all service matters, we are there for you in whole of Europe.

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

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

Our path-breaking LFV technology, laser integration and our innovative automatic tool changer (ATC) have revolutionized the cutting process. We will continue to work hard on developing new innovations and provide optimum solutions to our customers. With future-oriented products, we look forward to stepping into the future together with you.

Markus Reissig
General Manager Citizen Machinery Europe GmbH

L32

Redefined: The L32 – more axes, higher efficiency, more capabilities.

The integrated simultaneous 5-axis control unit (type L32-XIIB5) enables high-precision machining of complex geometries – fast, efficient and with high process reliability.

Advantages

- Simultaneous LFV cutting in 4 axes
- Higher performance: main spindle up to 7.5 kW / back spindle up to 5.5 kW
- Extended variety of tools up to 53 tools for maximum flexibility
- Energy conservation thanks to ECO II: optimized pneumatic system ensures a reduction in air consumption of up to 60 %

EcoBalance Machine

LFV technology

ATC technology

4,45 m²

Fig.: L32-2M8

Workpiece examples

1


2


3


1	**Name**	Example workpiece
	Material	Brass
2	**Name**	Coupling housing for electric contacts
	Material	Aluminium
3	**Name**	Sample part for trade fair
	Material	Construction steel

Standard

1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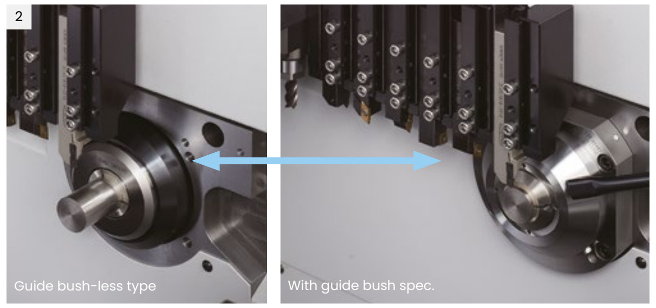

1 **Workpiece conveyor:** The workpieces are unloaded off the machine

2 **Conversion without / with guide bush**

Options

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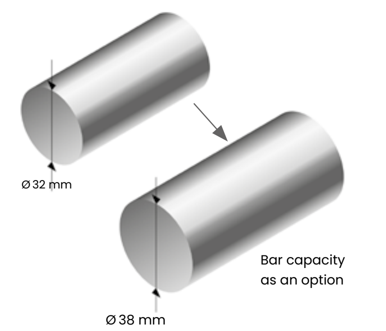

1 **Optional bar stock up to Ø 38 mm:**
Supply of Ø38 mm bar stock is also supported as an option. Independently of the bar capacity, the machining length per chucking [w/o rechucking] is 320 mm.
A wide range of workpieces can be machined.

2 **ATC technology**

3 **Can be optionally equipped with a laser system**

4 **Bar feeder**

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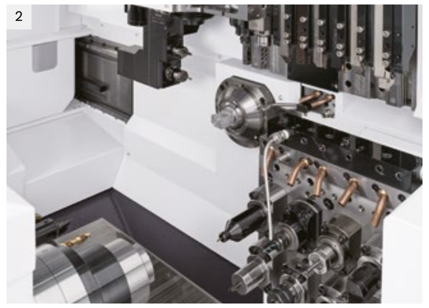

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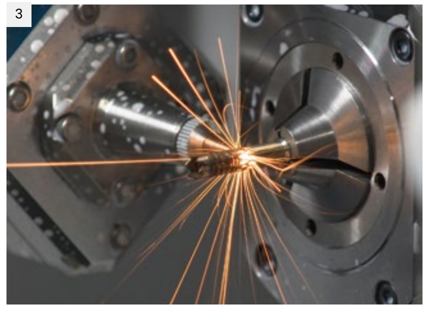

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What is more:
optionally with LFV technology

LFV technology

ATC technology

Layout

1 **Main spindle**
Max. speed: 8.000 min^{-1}
Max. machining length: 320 mm without rechucking
[with guide bush]

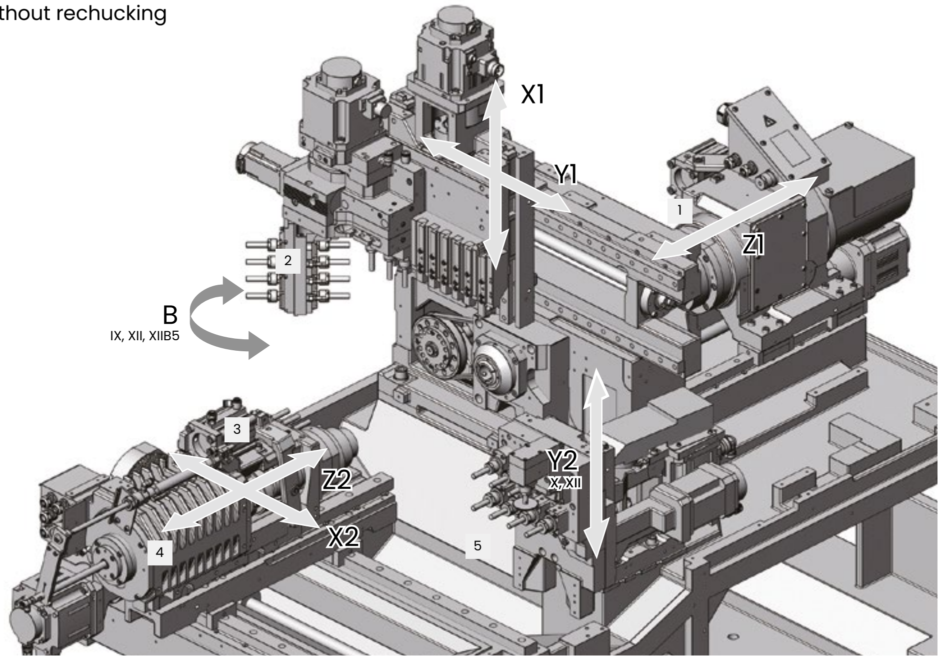
2 **Rotary tools on the gang tool post**
Max. speed: 9.000 min^{-1}
B-axis XII, XIIB5: Max. 12.000 min^{-1}

3 **Rotary tools on the front tool post**
Max. speed: 6.000 min^{-1} (type X, XII)

4 **Back spindle**
Max. speed: 8.000 min^{-1}

5 **Rotary tools on the back tool post**
Max. speed: 6.000 min^{-1}
Back tool post type X/XII/XIIB5
8 tools

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



(Model with option)

Working area

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

1 **B-axis: Rotary tools on the gang tool post (type XII)**

2 **Rotary tools on the opposite post (type X-XII)**

3 **Machine design with ATC kinematics plus three optional fixed tools for back machining**

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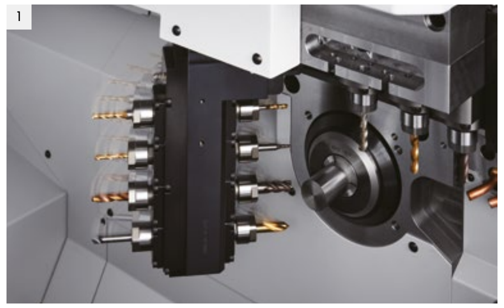

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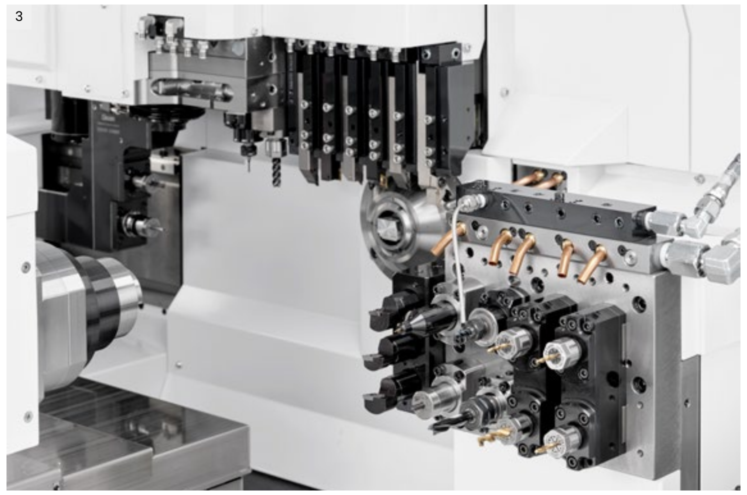
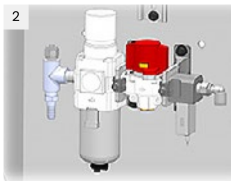
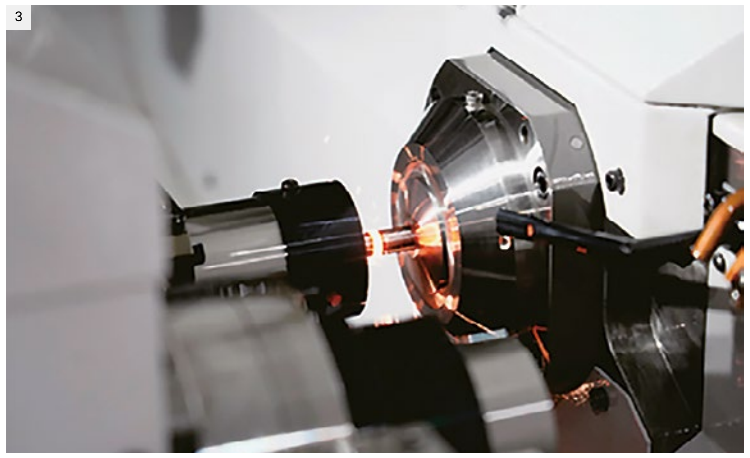
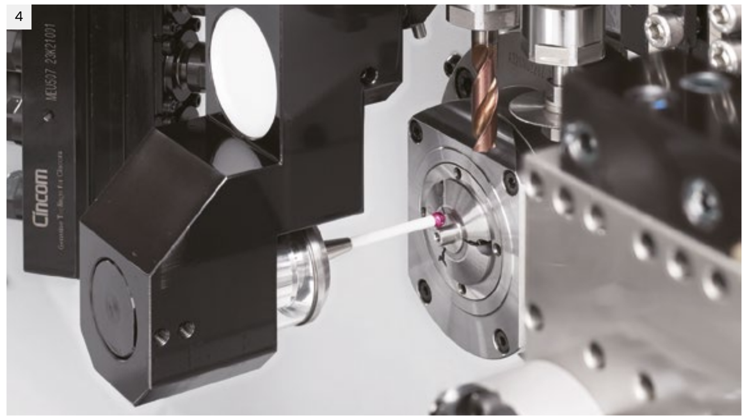


EcoBalance Machine

Eco II mode enables better monitoring and control of power consumption.







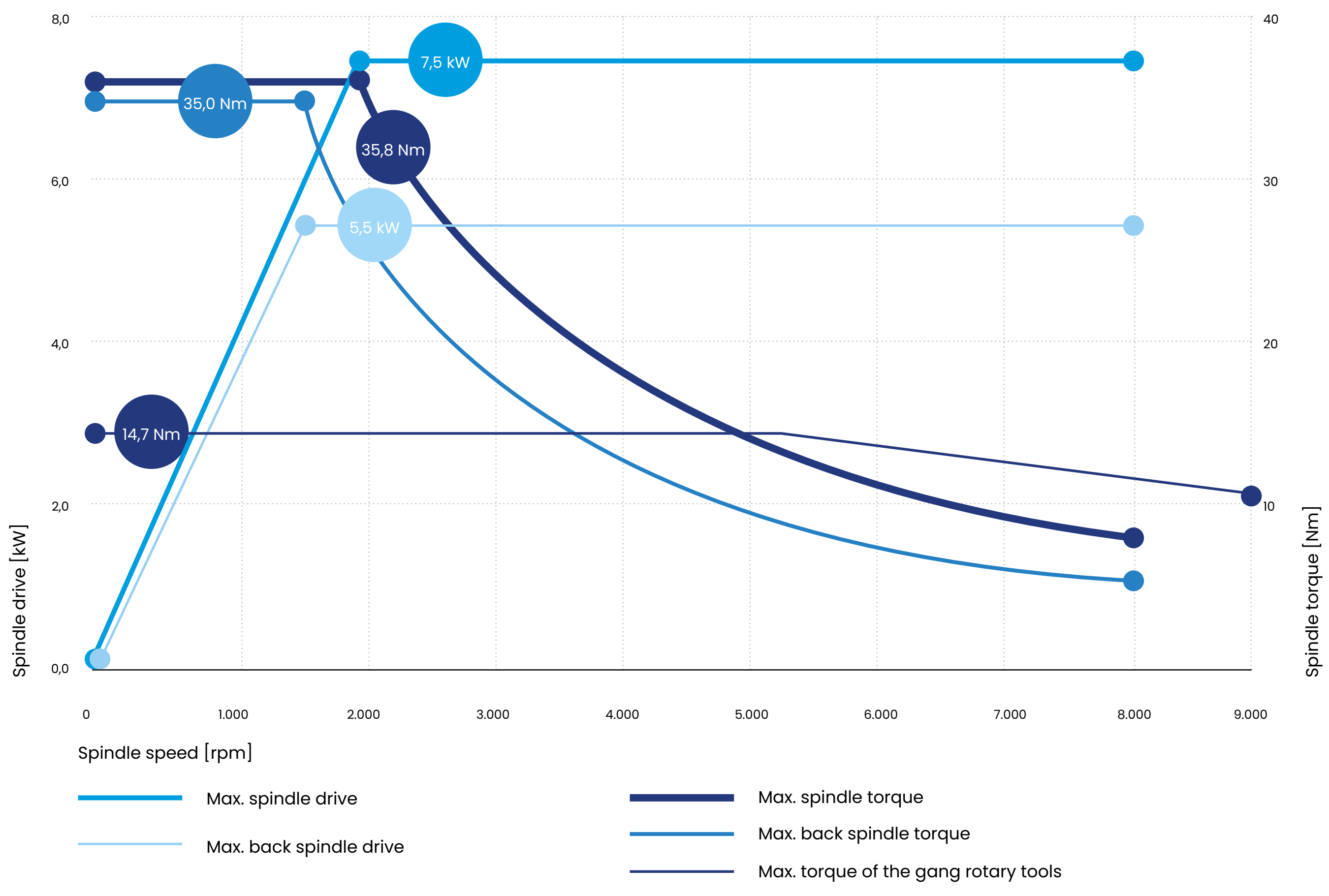
1. **Visualization of the ECO status**
   The ECO status of the machine is displayed directly on the monitor and provides detailed data on power, oil and lubricant consumption as well as air consumption and CO_2 emissions. Energy-saving functions for optimized control of power/air consumption, such as the idle stop function and the function for intermittent air blow, are included as standard.

2. **Air pressure**
   The compressed air supply was reduced from 0.5 MPa to 0.4 MPa, reducing the air requirement by up to 20 %.

3. **Efficient reduction of material waste**
   Remnant material, a long-standing problem for automatic lathes used to machine bar stock, is reduced by up to 80 %. Friction welding technology can be used to join remnant material and new material, allowing further processing. Using our proprietary control technology, the machine performs fully automated operations from joining to remnant material processing and cutting off of joined parts.

4. **Automatic on machine measurement**
   Guarantees error-free production by continuously checking workpieces for defects. In the event of deviations, the production process is automatically stopped or the workpiece is corrected.

Performance diagram



Tooling system

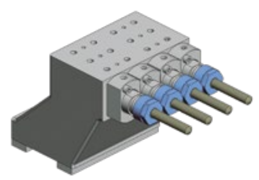
Rotary tools on the gang tool post

U31B [type VIII und type X]
Carry up to four rotary tools, one station with [manually] adjustable angle between 0° and 90°

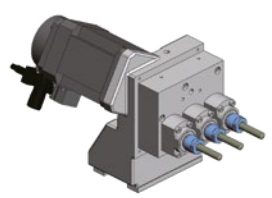
U32B [type XII]
Equipped with B-axis for front and back machining between 90° and -45°

Opposite tool post

U120B [type VIII]
Fixed × 4 tools

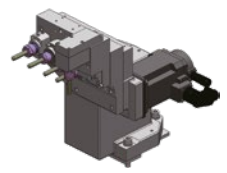


U121B [type X and XII]
Rotary × 3 tools



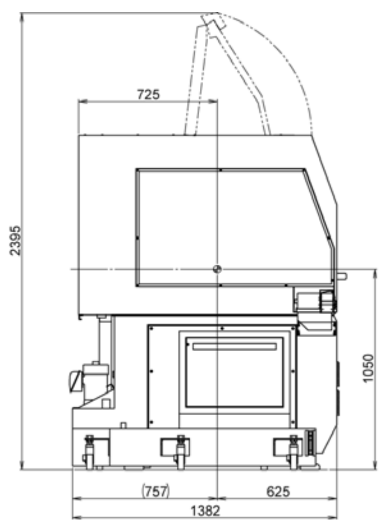
Back tool post

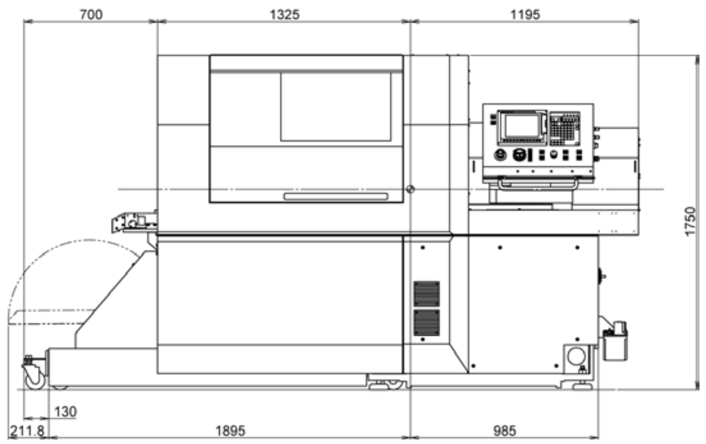
U151B [type VIII]
4 rotary tools and 1 fixed tool



U12B [type 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 (L32-2M8)	L32-X (L32-2M10)	L32-XII (L32-2M12)	L32-XIIB5 (L32-2M12B5)
Machining capacity				
Max. machining diameter	Ø 32 mm [Ø 38 mm OP]	Ø 32 mm [Ø 38 mm OP]	Ø 32 mm [Ø 38 mm OP]	Ø 32 mm [Ø 38 mm OP]
Max. machining length/without rechucking	GB: 320 mm GBL: 80 mm	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	Ø 12 mm
Max. tapping diameter for the main spindle	M12 (Cutting tap)	M12 (Cutting tap)	M12 (Cutting tap)	M12 (Cutting tap)
Spindle through-hole diameter	Ø 39 mm	Ø 39 mm	Ø 39 mm	Ø 39 mm
Main spindle speed	Max. 8.000 min^{-1}	Max. 8.000 min^{-1}	Max. 8.000 min^{-1}	Max. 8.000 min^{-1}
Back spindle				
Max. chuck diameter	Ø 32 mm [Ø 38 mm OP]	Ø 32 mm [Ø 38 mm OP]	Ø 32 mm [Ø 38 mm OP]	Ø 32 mm [Ø 38 mm OP]
Max. workpiece protrusion length from the back spindle	80 mm	65 mm	65 mm	65 mm
Max. taking-out length of the product	150 mm	140 mm	140 mm	140 mm
Max. drilling diameter	Ø 10 mm	Ø 10 mm	Ø 10 mm	Ø 10 mm
Max. tapping diameter	M10 (Cutting tap)	M10 (Cutting tap)	M10 (Cutting tap)	M10 (Cutting tap)
Back spindle speed	Max. 8.000 min^{-1}	Max. 8.000 min^{-1}	Max. 8.000 min^{-1}	Max. 8.000 min^{-1}
Gang tool post (rotary tools)				
Max. drilling diameter	Ø 10 mm	Ø 10 mm	Ø 10 mm	Ø 10 mm
Max. tapping diameter	M8 (Cutting tap)	M8 (Cutting tap)	M8 (Cutting tap)	M8 (Cutting tap)
Spindle speed	Max. 6.000 min^{-1} (Rated speed: 4.500 min^{-1})	Max. 6.000 min^{-1} (Rated speed: 4.500 min^{-1})	Max. 6.000 min^{-1} (Rated speed: 4.500 min^{-1})	Max. 6.000 min^{-1} (Rated speed: 4.500 min^{-1})
Rotary tools for front and back machining				
Max. drilling diameter	Ø 8 mm	Ø 8 mm	Ø 8 mm	Ø 8 mm
Max. tapping diameter	M6 (Cutting tap)	M6 (Cutting tap)	M6 (Cutting tap)	M6 (Cutting tap)
Rotary tool speed	Max. 6.000 min^{-1}	Max. 6.000 min^{-1}	Max. 6.000 min^{-1}	Max. 6.000 min^{-1}
Number of tools to be mounted	**48**	**53**	**45**	**45**
Turning tools on the gang tool post	6	6	6	6
Rotary tools on the gang tool post	33	33	25	25
Front drilling tools	4	4	4	4
Back drilling tools	6	12	12	12
Tool size				
Turning tools	□ 16 mm (Cut-off tool: □ 20 mm)	□ 16 mm (Cut-off tool: □ 20 mm)	□ 16 mm (Cut-off tool: □ 20 mm)	□ 16 mm (Cut-off tool: □ 20 mm)
Drill sleeve	Ø 25,4 mm	Ø 25,4 mm	Ø 25,4 mm	Ø 25,4 mm
Collet type and guide bush type				
Main and back spindle	F37	F37	F37	F37
Rotary tools	ER16	ER16	ER16	ER16
Guide bush	T229	T229	T229	T229
Rapid feed rate				
X1, Y1, Z1, X2, Z2 axes	32 m / min	32 m / min	32 m / min	32 m / min
Y2-axis	-	24 m / min	24 m / min	24 m / min
Motors				
Motor spindle drive	5,5 / 7,5 kW	5,5 / 7,5 kW	5,5 / 7,5 kW	5,5 / 7,5 kW
Back spindle drive	3,7 / 5,5 kW	3,7 / 5,5 kW	3,7 / 5,5 kW	3,7 / 5,5 kW
Gang tool post rotary tool drive	2,2 kW	2,2 kW	2,2 kW	2,2 kW
Rotary tools in holder for back machining (option)	1 kW	1 kW	1 kW	1 kW
Motor for rotary tools for back machining (option)	1 kW	1 kW	1 kW	1 kW
Rated power consumption	17 kVA	17 kVA	17 kVA	17 kVA
Rated power consumption	10 kVA	10 kVA	10 kVA	10 kVA
Total load current	71,2 A	71,2 A	71,2 A	71,2 A
Main breaker capacity	100 A	100 A	100 A	100 A
Power supply voltage	AC 200 ± 10 %	AC 200 ± 10 %	AC 200 ± 10 %	AC 200 ± 10 %

Standard machine equipment

Main spindle chucking device; Back spindle chucking device; Drive unit for rotary tools on the gang tool post; Drive unit for rotary tools in the back tool post (type X, XII, XIIB5); Rotary guide bush drive; Cut-off tool breakage detector; Coolant tank (with level sensor); Central lubricating oil supply unit (with level detector); Air-driven knock-out device for back machining; Machine relocation detector; Spindle cooling unit; Automatic fire extinguishing system; Workpiece conveyor

Optional machine equipment

Knock-out jig for through-hole workpiece; Motor-driven knock-out device for back machining; Rotary guide bush; Long-workpiece device; Product unloader; Servo-assisted chucking device; Drive unit for rotary tools on the front tool post; Drive unit for rotary tools on the back tool post (type VIII, IX); Chip conveyor; Medium-pressure coolant unit; High-pressure coolant unit; Coolant flow rate detector; 3-color signal tower; Servo-assisted chucking device; Loading unit; LFV; ATC; Expanded coolant tank; Automatic measurement system integrated in the machine; CIToolingSystem

Standard NC functions

CINCOM SYSTEM M850LUC-V (Mitsubishi Electric): Type XIIB5; CINCOM SYSTEM M820LUC-V (Mitsubishi Electric) Type VIII, IX, X, XII; 15-inch XGA touch panel; Program storage capacity 1200 m (480 kB); Tool offset pairs: 99; Product counter indication: up to 8 digits; User-opened disk capacity: 100 MB; Preparatory functions; Operating time display function; Machine operating data display function; B-axis control function; Program skip function for back machining; Interference check; Collision detection function; Spindle speed change detection; Constant surface speed control on the spindle; Automatic power-off function; Main spindle 1° indexing function; On-machine program check function; Tool nose R compensation; Eco II function; Corner chamfering / rounding function; Multiple repetitive cycle for turning; USB slot and SD card slot; Automatic chucking force adjustment; Chucking force monitoring function (with servo-assisted chucking device only)

Optional NC functions

Variable lead thread cutting; Arc thread cutting; 3D chamfering function; Geometric command function; Spindle synchronization; Main spindle C-axis function; Milling interpolation; Back spindle 1° indexing function; Back spindle C-axis function; Back spindle chasing function; Canned cycle for drilling; Phase adjustment for tapping; Synchronous tapping; High-speed synchronized tapping function; Differential speed for rotary tool; Optional block skip (9 sets); Tool life management I; Tool life management II; Program storage capacity; Operation via external program memory; Sub-micron command; Custom macro; Helical interpolation; Inclined helical interpolation; Hobbing; Polygon machining function; Inch command; Sub-inch command; alkarttransfer, RS-232C interface; Feed per revolution for rotary tool; Tool monitor

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