

# Cincom



## M32

Sliding Headstock Type Automatic CNC Lathe

# Cincom Innovation Line

# M

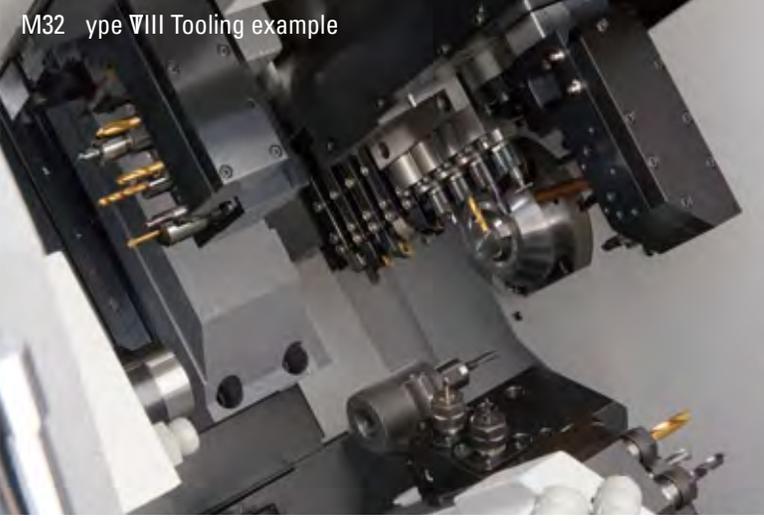


**"Impressive Value" Production**  
Adding value to efficient production

# Innovation is having your own vision and creating new technology.

## The M20/32 The market leader re-defined

More tools – more functions – more flexibility – higher productivity – same floor space – more value



M32 type VIII Tooling example

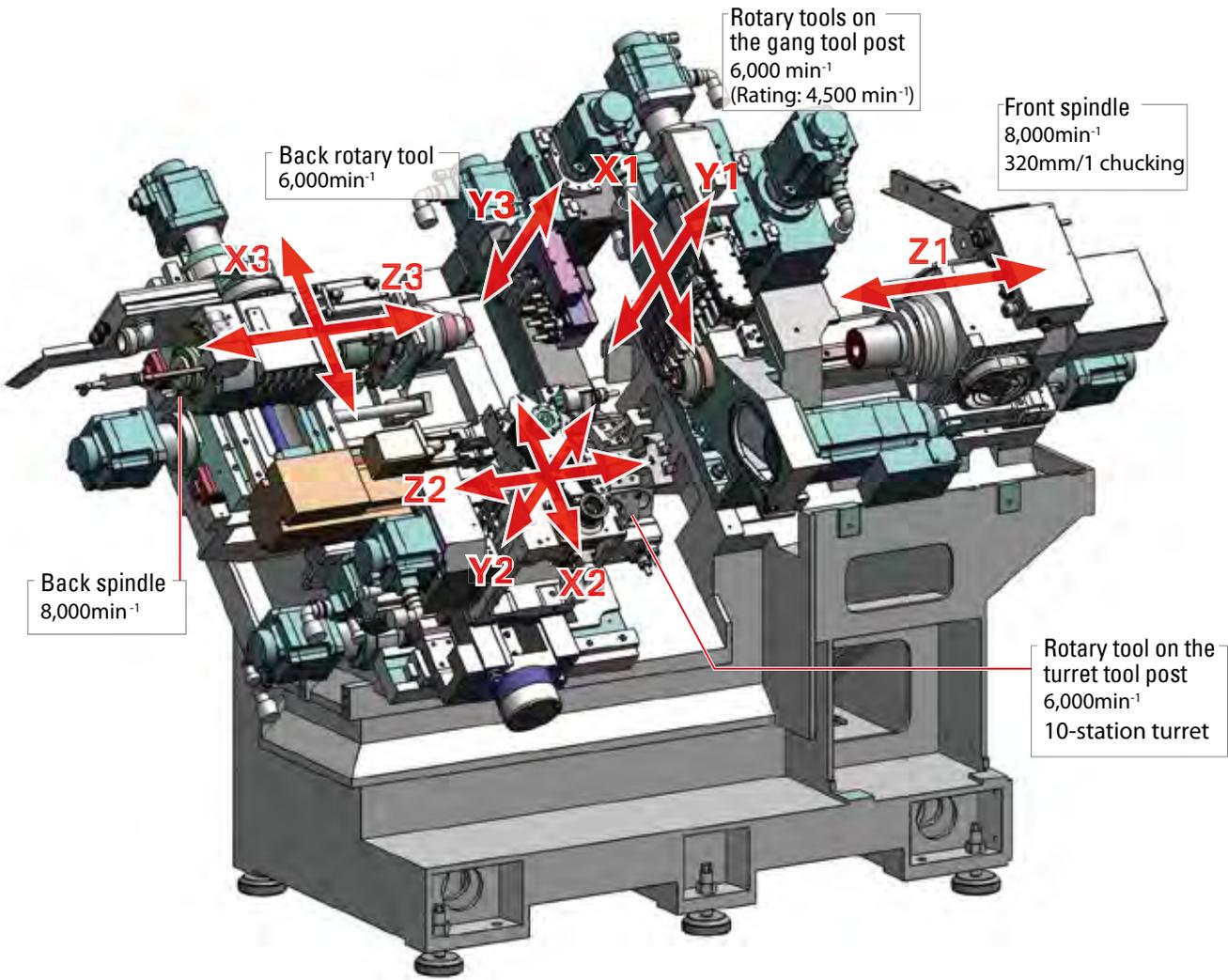
The M32 is renowned for its leading capability for 3 tool simultaneous machining in a compact floor space. The all round combination of flexible tooling, large tool capacity, outstanding ease of use has made the M32 our success story in the new century.

The next generation M32 increases the 3 tool simultaneous machining abilities with a new Y3 axis on the back tool post with up to 9 tools (up to 6 driven).

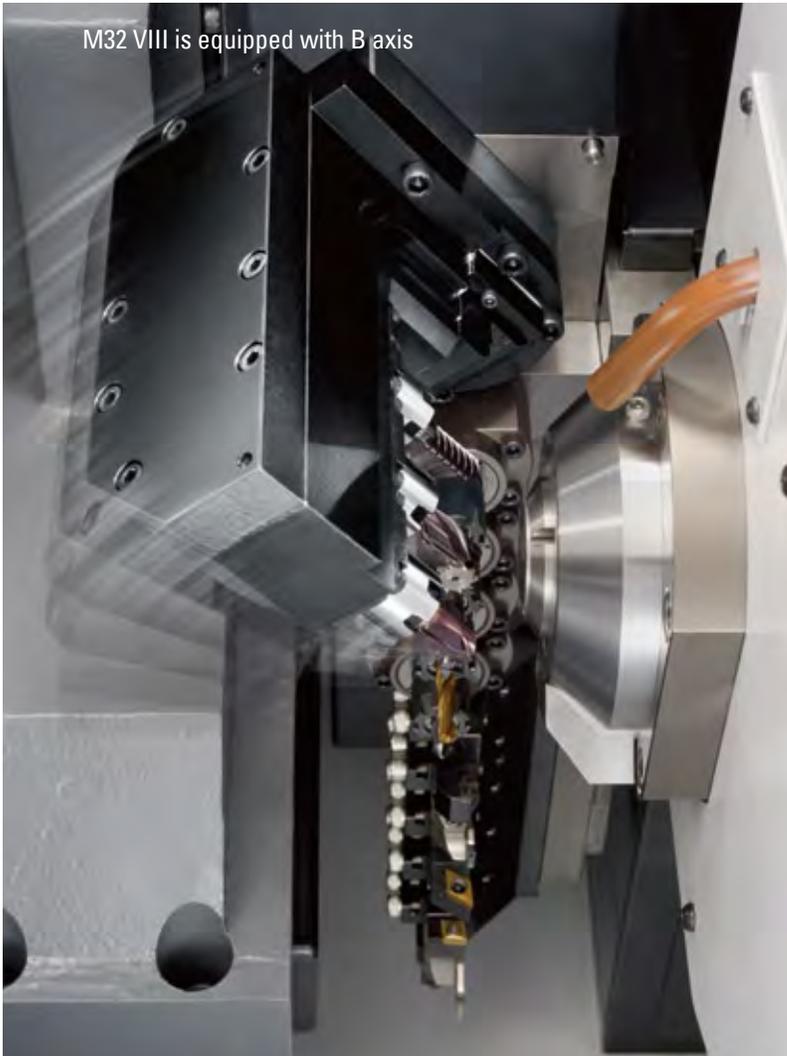
New advanced functions include a B axis on the gang tool post with 4 axis simultaneous containing control.

### Machine configuration by M20/32 type

	Type III	Type V	Type VII	Type VIII
Y2 axis (turret Y axis)	–	○	○	○
Y3 axis (back tool post Y axis)	–	–	○	○
B axis (rotary tools on the gang tool post)	–	–	–	○



M32 VIII is equipped with B axis



## B axis with 3 rotary tools on the gang tool post (type VIII)

The B axis is the slant axis in reference to the Y axis direction. When drilling a slanted hole on a conventional machine, the adjustable angle spindle was used, but now rotary tools incorporating a B axis can be used to change the angle continuously, allowing you to handle slanted holes at a number of angles. Contouring with simultaneous 4-axis control is also possible (the angle range is  $-10^{\circ}$  to  $95^{\circ}$ ).

## Improved turret capability

The turret geometry is carried over from the previous generation to deliver tool holder compatibility. An improved Z2 axis stroke allows simultaneous machining with opposed turning tools or rotary tools on gang tool post thus enabling pinch/balanced turning and pinch/balanced cross drilling and milling. Turret indexing can take place in any position which reduces cycle time.

## Y axis on the back tool post (types VII and VIII)

The back tool post can accommodate holders in 3 rows (two rows for rotary tools and one for fixed tools) and up to nine tools can be used. The specifications of the outer diameter milling spindle (GSC1110), 3-drilling spindle (GSE1510) and 3-sleeve holder (GDF1501) are common to those used on the gang tool post and they can be used both on the gang tool post and the back tool post.

\* The use of GSE1510 and GDF1501 on the gang tool post is restricted to types III, V and VII.

## 30% reduction in idle time

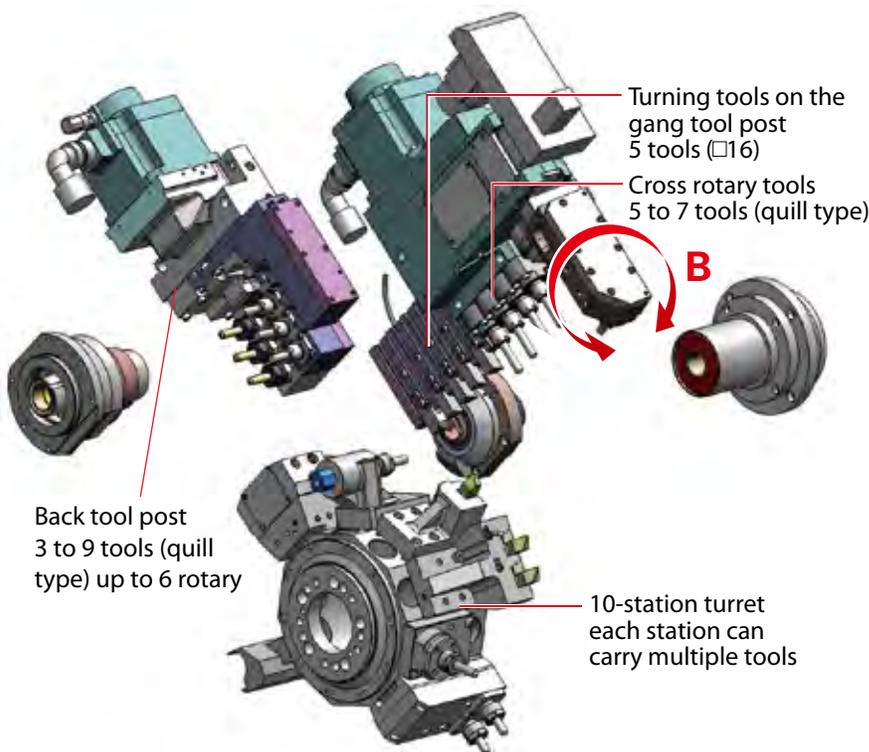
Mitsubishi Electric's latest NC unit, the M730 series, has been adopted. With a fast CPU on board it offers even higher arithmetic processing speeds. In combination with Citizen's original control technology "Cincom Control", a rapid traverse rate increased to 32 m/min, and high acceleration/deceleration with spindle/guide bushing synchronization, idle time is reduced by 30%.

## Evolved control functions

The control functions have evolved a stage further, with the syntax check function that allows you to check for syntactic errors in NC programs, a function that specifies the locations of alarms in high-speed program checks, tool life management that allows multiple tools to be managed under the same tool number and so on.

## Environmentally friendly products

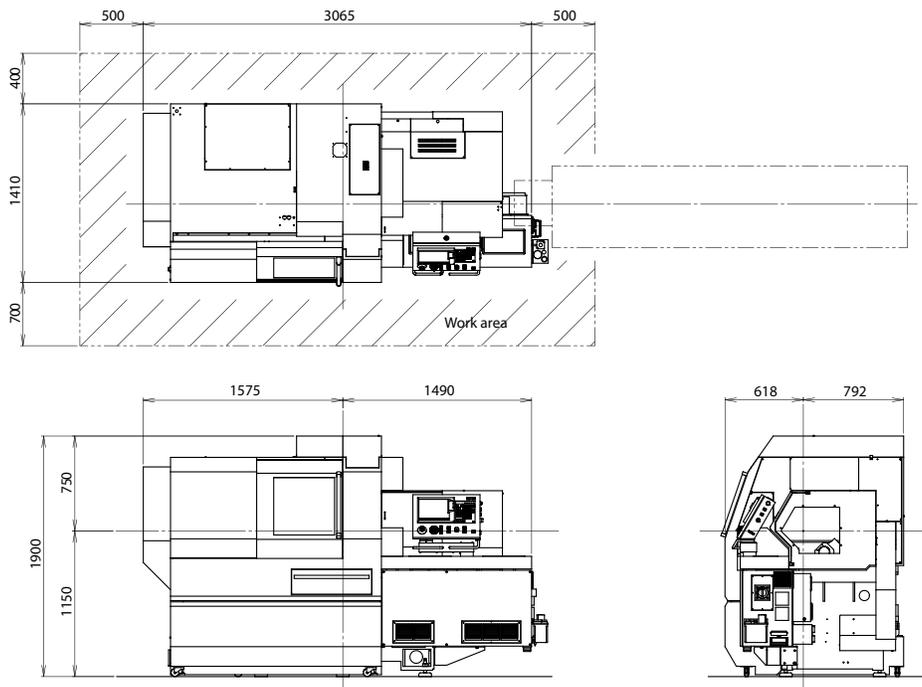
Consideration has been given to saving energy and resources by adopting control methods that reduce power consumption, such as the idling stop function, and by optimizing consumption of oil/air for lubrication. Consideration has also been given to the environment by using materials that are easy to recycle, increasing the percentage of recyclable materials used, and eliminating hazardous substances in conformity with the RoHS Directive.



# Machine Specification

Item	M32	M20	M32	M32
	Type III	Type V	Type VII	Type VIII
Max. machining diameter (D)	φ 20mm (M20); φ 32mm (M32)			
Max. machining length (L)	320mm/1 chucking			
Max. front drilling diameter	φ 12mm			
Max. front tapping diameter (tap, die)	M10			
Spindle through-hole diameter	φ 36mm			
Main spindle speed	8,000min <sup>-1</sup>			
Max. drilling diameter for the gang rotary tool	φ 8mm			
Max. tapping diameter for the gang rotary tool	M6			
Spindle speed of the gang rotary tool	6,000min <sup>-1</sup> (Rating 4,500min <sup>-1</sup> )			
Max. drilling diameter for the turret rotary tool	φ 10mm			
Max. tapping diameter for the turret rotary tool	M8			
Spindle speed of the turret rotary tool	6,000min <sup>-1</sup>			
Max. drilling diameter for the back spindle	φ 10mm			
Max. tapping diameter for the back spindle	M10			
Back spindle speed	8,000min <sup>-1</sup>			
Max. drilling diameter for the back tool post rotary tool	—		φ 8mm	
Max. tapping diameter for the back tool post rotary tool	—		M6	
Spindle speed of the back tool post rotary tool	—		6,000min <sup>-1</sup>	
Max. chuck diameter of the back spindle	φ 32mm			
Max. protrusion length of the back spindle workpiece	65mm			
Max. protrusion length	145mm			
Number of tools to be mounted	25+α		29+α	31+α
Turning tool	5			
Gang rotary tool	5		7	4
Gang B axis rotary tool	0		3	
Number of turret station	10			
Back tool post station	5		9	

Item	M32	M20	M32	M32
	Type III	Type V	Type VII	Type VIII
Tool size				
Tool (gang tool post)	□ 5/8"			
Sleeve	φ 1"			
Chuck and bushing				
Main spindle collet chuck	TF25 (M20); TF37-SP (M32)			
Back spindle collet chuck	TF25 (M20); TF37-SP (M32)			
Guide bushing	TD25NS (M20); TD32 (M32)			
Rapid feed rate				
All axes (except Y2)	32m/min			
X2 axis	18m/min			
Y2 axis	—	8m/min		
Y3 axis	—	32m/min		
Motors				
Spindle drive	3.7/7.5kW			
Back spindle drive	2.2/3.7kW			
Gang tool post rotary tool drive	1.0kW			
Turret rotary tool drive	0.75/1.5kW			
Back tool post rotary tool drive	—	1.0kW		
Coolant oil	0.4kW			
Lubricating oil	0.003kW			
Center height	1150mm			
Input power capacity	18kVA			



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