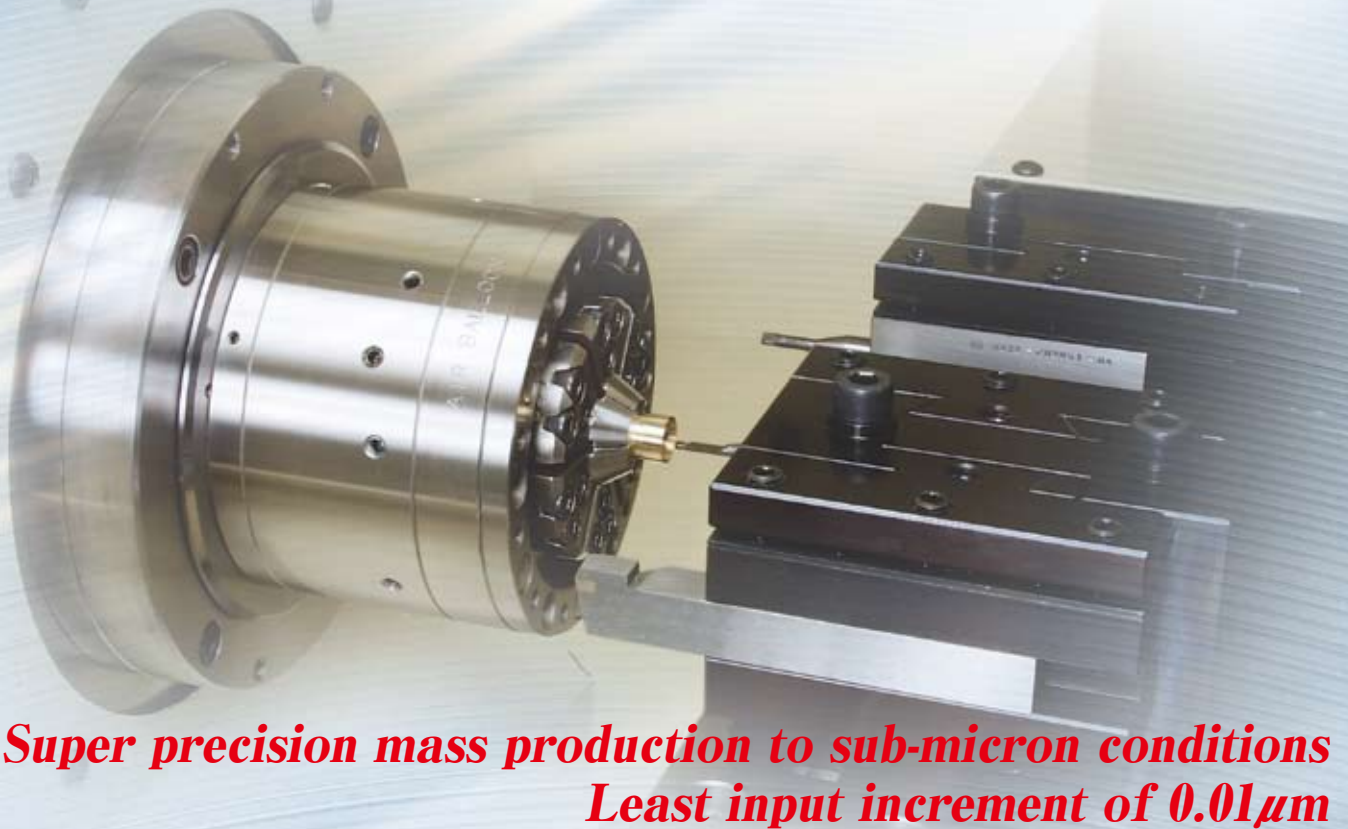


HIGH ACCURACY  
HIGH SPEED  
HIGH RIGIDITY

PRECISION TSUGAMI



*Super precision mass production to sub-micron conditions  
Least input increment of 0.01 $\mu$ m*

CNC High Precision Automatic Lathes

# G220

## Super precision gang tool type production lathes

### ■ High precision machining

- Laboratory class machining for production facilities
- High dimensional accuracy ...  $6\sigma=0.5\mu\text{m}$  (Brass part)
- High geometric accuracy in roundness and cylindricity

### ■ The ultimate in dimensional change suppression with complete thermal control

- Minimum dimensional change through pauses in production
- High quality parts - on demand

### ■ One piece Chuck and spindle

- High speed spindle not influenced by traditional chuck actuation tube (Air-tube integrated spindle)

### ■ Independent slides with sliding head

- X, Z independent T-bar type slides for stability - Eliminates the traditional inaccuracy of "stacked" slides
- Roller guide ways are used for superior micro-contouring



## Standard Machine Specifications

Item		C220	
Machining capability	Swing over bed	260 mm	
	Spindle center height from X slide surface	45 mm	
	Distance between spindle and X slide face	Max.300 to Min.80 mm	
Spindle	Spindle Max. spindle speed	12,000 min <sup>-1</sup> (Built-in motor)	
	Spindle face configuration	φ114 mm Flat	
	Chuck size	4 inch	
Tool post	Type	Gang type tool post (On T-grooved plate)	
	X axis stroke	220 mm	
	Z axis stroke	220 mm	
	Rapid traverse rate	X axis	15 m/min
		Z axis	15 m/min
	Tool size	□13 mm	
Motor	Spindle	3.7/2.2 kW	
	X axis	1.4 kW	
	Z axis	1.4 kW	
	Coolant pump	250 W	
	Spindle cooling pump	75 W	
Tank capacity	Lubrication tank	1.8 L	
	Spindle cooling tank	8 L	
	Coolant tank	180 L	
Dimensions	Width x Depth x Height	1,500 X 1,370 X 1,590 mm (Loader spec ; 2,240 mm)	
	Weight	2,300 kg (Loader-2 pallet included)	

## Standard NC Specifications

Item	C220
NC unit (FANUC)	32i-B
Display unit	8.4" color LCD
Number of simultaneously controlled axes	2 axes (X, Z)
Least input increment	0.01 μm (X-axis : Diameter value)
Least detection increment	0.01 μm
Feed rate command	mm/rev, mm/min
Command input method	absolute/incrmental
Interpolation	Linear & Circular
Miscellaneous function	M 2 digits
Spindle function	S 5 digit (Direct command)
Tool function	T 4 digits
Number of tool offsets	16 pairs
Part program storage length	80 m
Feed rate override	0 to 150% (by 10% step)
Optional block skip	1
Backlash compensation	
Program number search	O 4 digits
Sequence number search	N 5 digits
Canned cycle	

## Standard accessories

Single holder A
Single holder B
Double holder
Transfer tool
Spindle cooling unit
Height gauge

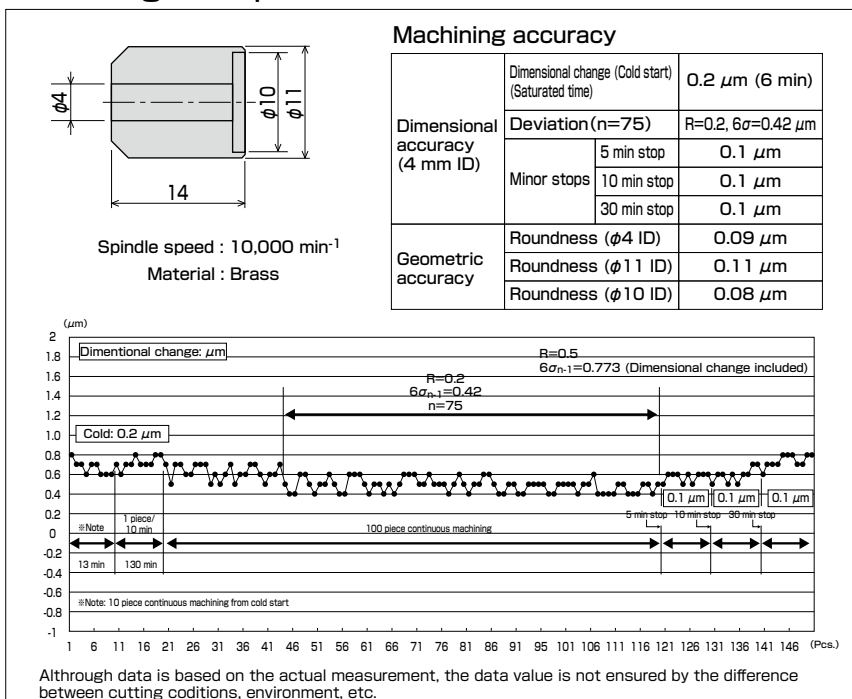
## Loader, 2-pallet system

3 axis loader
2-pallet changer
X-axis scale, Z-axis scale
Coolant tank with bag filter
High pressure coolant pump for tool post and through spindle
Automatic shutter
Oil temperature controller
Oil cooling unit
External illumination
Mist duct
Air blow
Signal tower (triple)

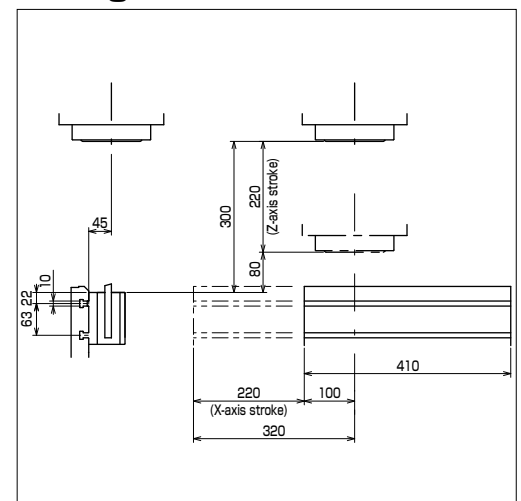
## NC options

Tool nose radius compensation	Tool geometry and wear offset	Tool offset 32 pairs
Custom macro B	Multiple repetitive cycle	Back ground editing
Chamfering corner R	Inch/metric conversion	Part program storage length 160 m, 320 m
Run hour and parts count display	Spindle speed fluctuation detection	

## Machining example



## Tooling Zone



Export permission by the Japanese Government may be required for exporting our products in accordance with the Foreign Exchange and Foreign Trade Law. Please contact our sales office before exporting our products.

Specifications	Machine model name
Without scale	C220
With X-axis scale	C220(X)
With X-axis scale and Z-axis scale	C220(X-Z)

The specifications of this catalogue are subject to change without prior notice.

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