

# ***KNCseries***

## ***KNC-100G***

**Small Type Precision CNC Lathe**

### Machining possibly done by gang tool should be done by gang tool Stable precision of machining with more speed

With excellent operability and performance, opens up new gang lathe's possibilities. Since making its first appearance in 1982, the [KNC-50 series] has evolved over the years. Now, the series is renovated.



※ Photo shows a machine with options.

#### Specifications

The CNC software options come standard, which generally are necessary. Examples are program storage length 1280M and multiple repetitive cycles. Special specifications are partly removed.

#### Low price

All these high performances at reasonable prices. We will contribute to low costs for customers.

### Processing precision example

#### Processing condition

Machined material : BsBM  
 Spindle speed : 3000rpm  
 Feed : 0.03mm rev  
 Cutting depth : 0.02mm(dius diameter)  
 Tool used : Compax Nose R0.3

#### Roundness

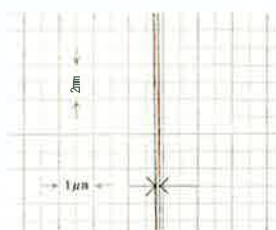


0.15 μm

#### Straightness

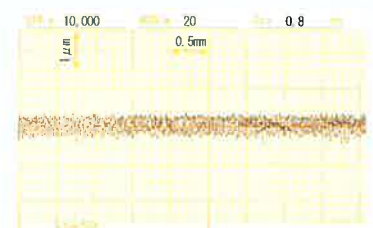


Outside diameter surface / 0.2μm

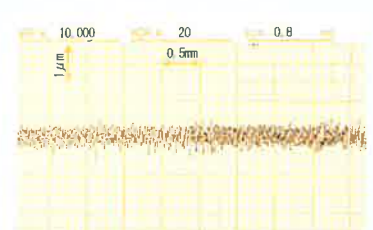


End face / 0.15μm

#### Finished surface roughness



Outside diameter surface



End face

### Characteristic

#### High-speed tool reaching

The biggest advantage of the gang tool lathe is high-speed tool reaching. The swing index is not necessary, because the tools are fixed directly on the slide. If you are looking for the cycle time, the answer is the gang tool.

#### High-speed and high-precision

The unique high-precision main spindle of KITAMURA MACHINE WORKS is well known. However, we reduced the cycle time by adoption of high-acceleration servomotor and latest high-speed CNC, comparing to the former model. Without compromise, we have improved the "scraped finish" that can only be achieved with traditional KNC technology and craftsmanship. We provide you with the most stable precision for many years. Furthermore, an NC order 0.1μ comes standard, Smoother taper/R processing was made possible.

#### Operation

Totally new design, easy-to-use operation panel, an excellent structure for maintenance.

#### Special specifications

A great number of special accessories available for customers.

#### Wider tooling area

An extended X-axis-enabled stroke, which has been in great user request, is now provided, thereby supporting a gearless system.



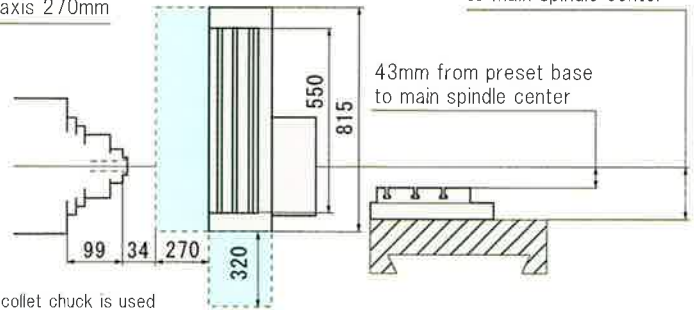
※ The complex machining function is optional.

## Tooling Area



● Effective stroke  
X axis 320mm  
Z axis 270mm

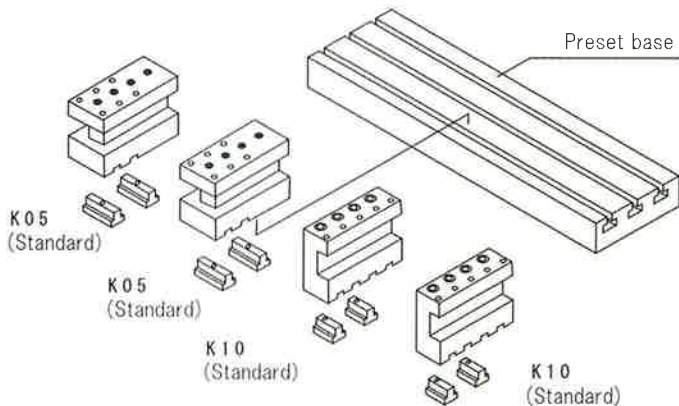
80mm from cross table  
to main spindle center



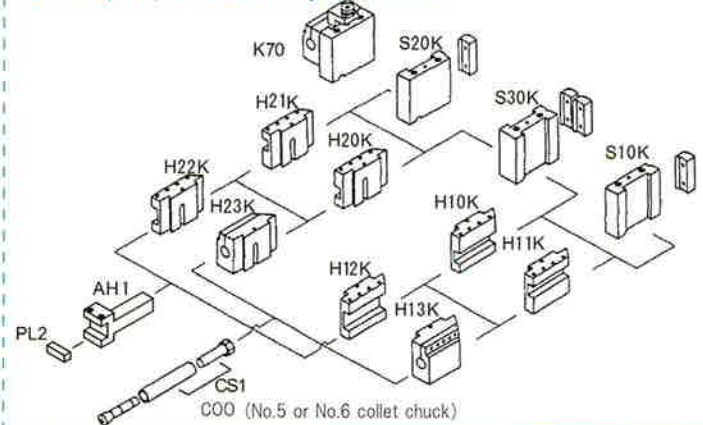
※ It is the stroke area when collet chuck is used

## Tool Holder

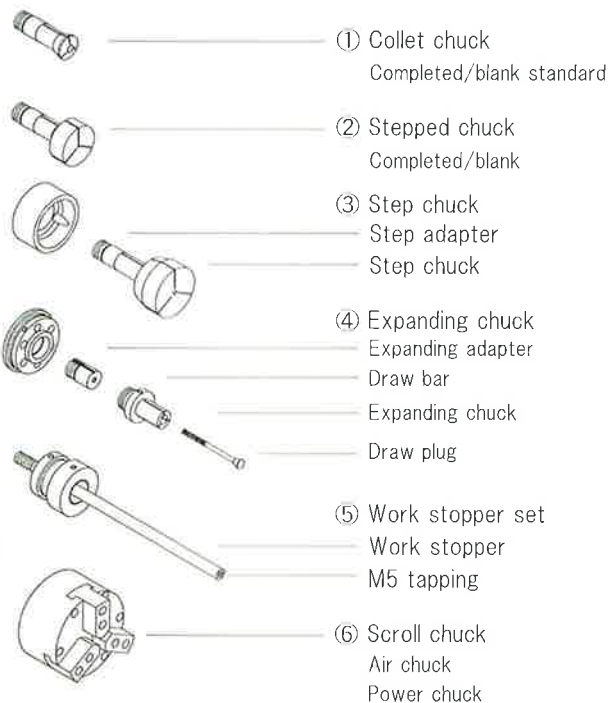
● Standard accessory Tool Holder



● Example optional accessory Tool Holder



## Chucks



※ ① is standard specification and others are all options.  
※ ①~⑤ can be used with lever type chucking system  
(standard chucking system)

● Others chuck

- Super precision air chuck
- S type collet chuck
- Vacuum chuck

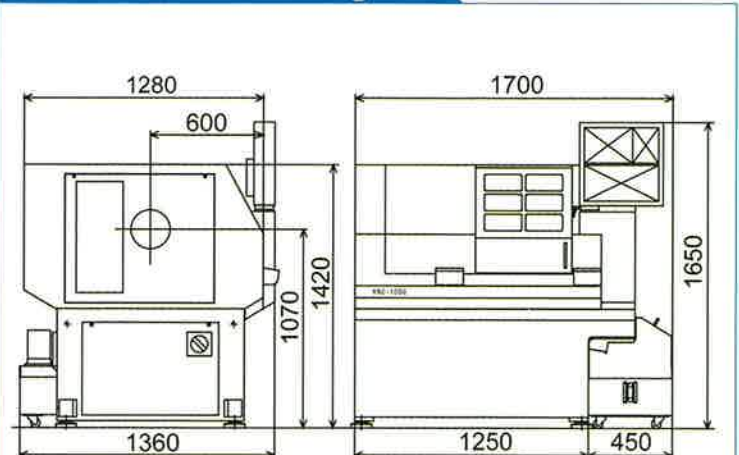
● Others chucking system

- Rotary air cylinder open/closed center
- Rotary hydraulic cylinder open/closed center

## Work Sample



## Outline Dimensional Diagram





## Machine Specifications

Capacity	Swing over bed	φ 320mm
	Swing over cross slide	φ 160mm
	Max.turning diameter	φ 100mm
	Max.turning length	100mm
Spindle	Spindle speed	MAX 6,000min <sup>-1</sup>
	Number of spindle speed ranges	Step-less(S4 digits)
	Through hole diameter	MAX. φ 25mm
Rapid traverse	X-axis rapid traverse	15m/min
	Z-axis rapid traverse	15m/min
Travel of tool slide	X-axis travel	320mm
	Z-axis travel	270mm
Motors	Spindle drive motor	3.7/5.5kW
	Feed motors (X/Z)	1.2kW
etc.	Required electric power	3 φ AC200V50/60HZ 10KVA
	Height of machine	1,650mm
	Height from floor to spindle center	1,070mm
	Floor space	1,360 × 1700mm
	Mass of machine	Approx. 1,800kg

### Standard Accessories

- Coolant device with chiptank(250W)
- Lever chuck unit
- Collet chuck adapter+blank
- Tool holder K05(2pc'c),K10(2pc'c)
- Work light
- Preset base
- Tools and toolbox
- Machine mount

## CNC Standard Specifications

Control unit	KNC & FANUC 0i - TD	
Controlled axes	Simultaneously controllabel 2 axes,2 axis in manual mode	
Input method	MDI keyboard input,combined use of absolute/incremental programming	
Program memory capacity	1280m tape	
Interpolation	Linear,taper,circular,threading	
Least input increment	0.0001mm	
Least command increment	X axis	0.00005mm
	Z axis	0.0001mm
Tool offset	Geometry	±999.9999
	Wear	±9.9999
Tool offset pairs	64pairs	
Number of registerable programs	400parts	
Manual handle feed	0.5/0.1/0.01/0.001mm	
Auxiliary function	M3(Multiple commands 3),S4,T2 digits	
Feed rate override	0~150%	
Rapid trverse override	F0,25,50,100%	
Input/output interface	RS232C/Memory card	
Display language	Japanese/English/Traditional Chinese/Simplified Chinese/French/German/Italian/Spanish/Korean	

### Others Specifications

- Canned cycles(G90,G92,G94)
- Inch/metric conversion
- Multiple repetitive cycles(G70~G76)
- Background editing
- Run hour and parts count display
- Graphic function
- Canned cycles for drilling(G80~G89)
- Variable lead threading(G34)
- Custom macro B
- Extended part program editing
- Sequence number search
- Unexpected disturbance torque detection
- Programmable data input(G10)
- G code system B
- Constant surface speed control
- Direct drawing dimension programming
- Tool nose radius compensation
- Conversational programming with graphic function
- Threading retract
- Directory display of floppy cassette
- Workpiece coordinate system(G52~G59)
- Adding of custom macro common variables
- Multiple repetitive cycle II

## Example optional specifications

 Work preset counter	 Oil temp controller	 Hydraulic unit	 Tool spindle unit N	 Drilling unit	 Built in spindle Motor	<ul style="list-style-type: none"> <li>• Variety chucks</li> <li>• Variety tool holders</li> <li>• Oil mist spray</li> <li>• Parts feeder</li> <li>• Operation panel language English/Chinese</li> <li>• Cs contouring control</li> <li>• Linear scale</li> <li>• Variety robots &amp; Loader</li> <li>• Variety bar feeder system</li> <li>• Auto door</li> <li>• Each axis effective stroke extension</li> <li>• Spindle motor power up</li> <li>• Spindle Through hole diameter up MAX φ 38mm MAX speed 4,500min<sup>-1</sup></li> <li>• Parts catcher</li> <li>• High pressure coolant pump</li> <li>• Spindle inner coolant</li> </ul>
 Collet chuck type S	 Precision air chuck	 Power chuck	 Tool post turret	 Spindle orientation lock	 Parts conveyor	
 Tail stock	 Tool post loader	 NC Servo Loader	 Signal Tower	 Simple bar feeder	 Work stocker	
 Chuck Foot switch	 Air blow	 Chip conveyor	 Oil mist collector			

※Please feel free to contact us for other options of customization to your specifications.  
 ※The above specifications may be different from the photograph.

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