

# ***KNCseries***

***KNC-20G***

**Super-Small Type  
Precision CNC Lathe**

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

High-speed and high-precision machine, responding the latest needs, with its compact space and low cost. Since making its first appearance in 1987, the [KNC-20 series] has evolved over the years. Now, the series is renovated.



※ Photo shows a machine with options.

#### ■ Operation

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

#### ■ Low price

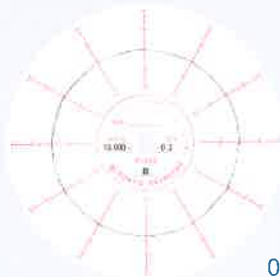
All these high performances at reasonable prices. We will contribute to low costs for customers.

### ■ Processing precision example

#### ■ Processing condition

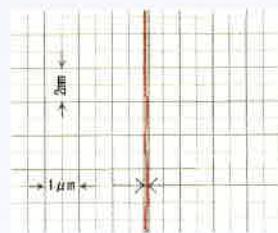
Machined material : BsBM  
Spindle speed : 3000rpm  
Feed : 0.03mm rev  
Cutting depth : 0.02mm(dius diameter)  
Tool used : Compax Nose R0.3

#### ■ Roundness

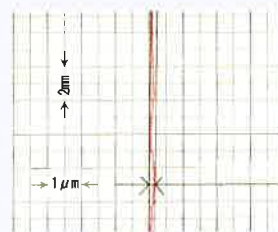


0.15μm

#### ■ Straightness

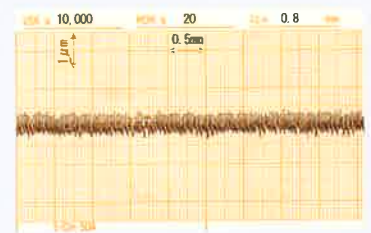


Outside diameter surface / 0.2μm

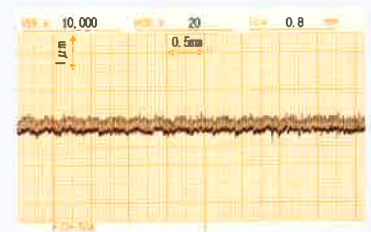


End face / 0.15μm

#### ■ 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.

#### ■ Less space

One of the least space in this class of machines.

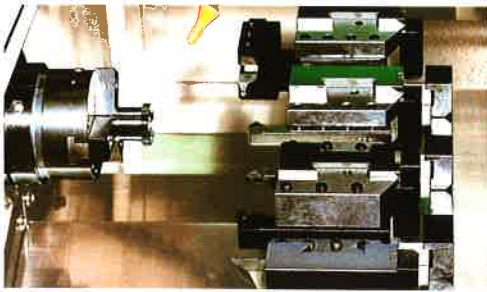
#### ■ Special specifications

A great number of special accessories available for customers.

#### ■ Specifications

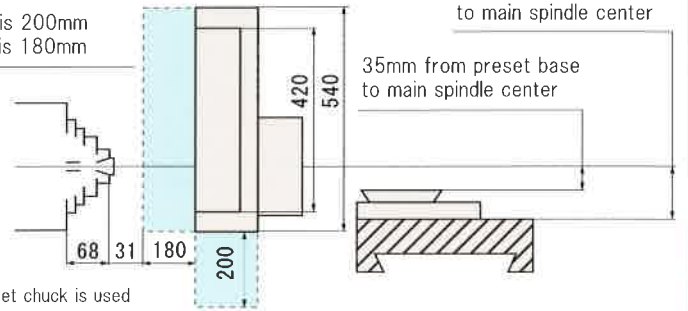
The CNC software options come standard, which generally are necessary. Examples are program storage length 1260M and multiple repetitive cycles. Special specifications are partly removed.

## Tooling Area



● Effective stroke

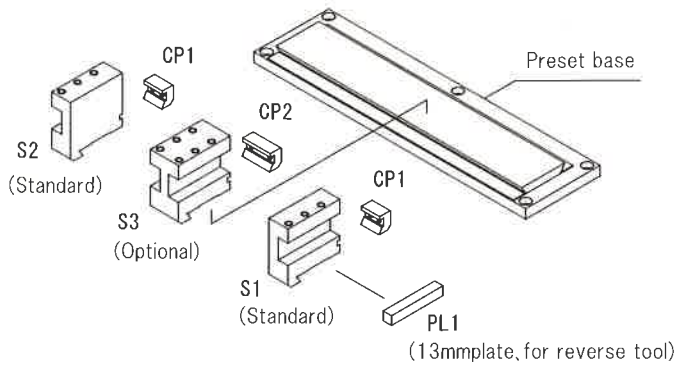
X axis 200mm  
Z axis 180mm



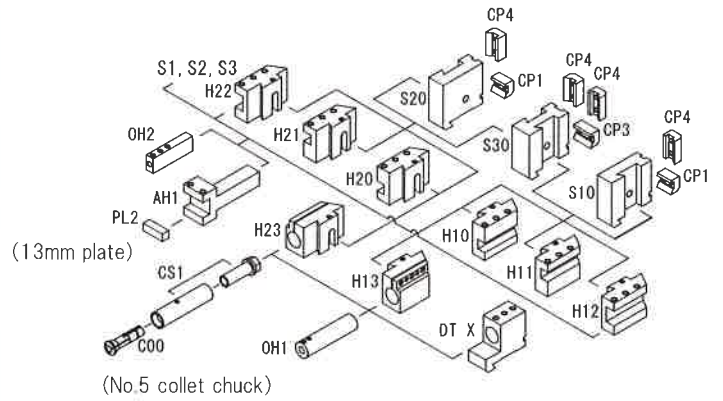
※ It is the stroke area when collet chuck is used

## Tool Holder

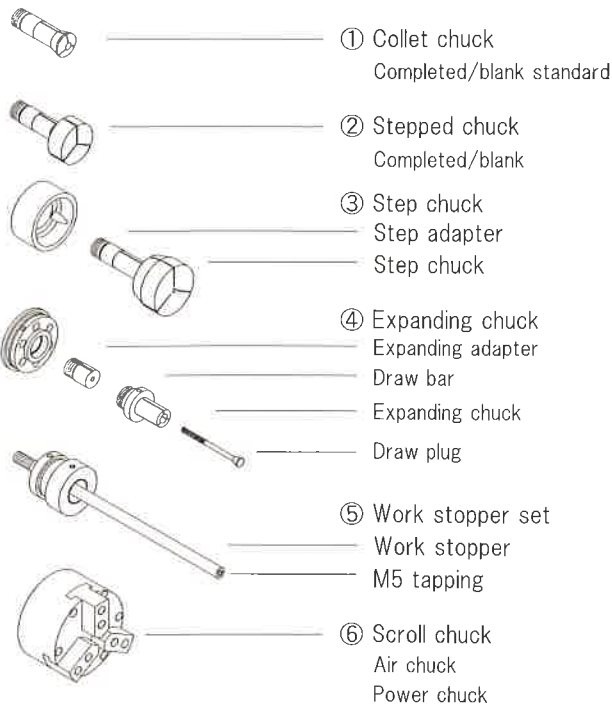
● Standard accessory Tool Holder



● 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

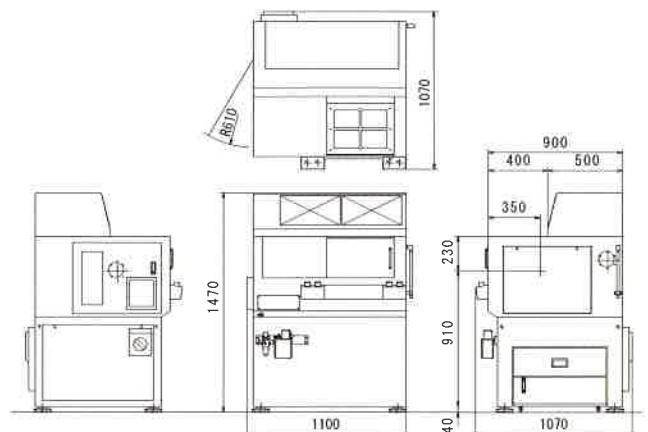
● Others chucking system

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

## Work Sample



## Outline Dimensional Diagram



## Machine Specifications

Capacity	Swing over bed	φ 240mm
	Swing over cross slide	φ 120mm
	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 20mm
Rapid traverse	X-axis rapid traverse	15m/min
	Z-axis rapid traverse	15m/min
Travel of tool slide	X-axis travel	200mm
	Z-axis travel	180mm
Motors	Spindle drive motor	2.2/3.7kW
	Feed motors (X/Z)	0.75kW
etc.	Required electric power	3 φ AC200V50/60HZ 6KVA
	Height of machine	1,470mm
	Height from floor to spindle center	950mm
	Floor space	1,100 × 1070mm
	Mass of machine	Approx.750kg

### Standard Accessories

- Coolant device with chiptank(250W)
- Lever chuck unit
- Collet chuck adapter+blank
- Tool holder S1(2pc'c),S2(2pc'c)
- Work light
- Preset base
- Tools and toolbox
- Machine mount

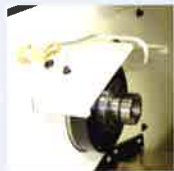
## CNC Standard Specifications

Control unit	KNC & FANUC Oi - Mate - 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

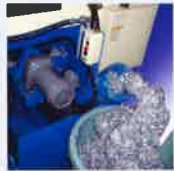
## Example optional specifications



Air blow



Oil mist collector



Chip conveyor



Work preset counter



Oil temp controller



Hydraulic unit



Tool spindle unit N



Drilling unit



Built in spindle Motor



Chuck Foot switch



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

- Variety chucks
- Variety tool holders
- Oil mist spray
- Parts feeder
- Operation panel language English/Chinese
- Cs contouring control
- Linear scale
- Variety robots & Loader
- Auto door
- Spindle motor power up
- Parts catcher
- High pressure coolant pump
- Spindle inner coolant

※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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