



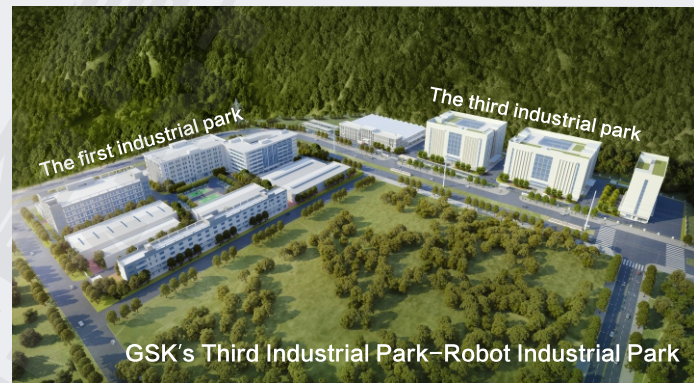
# Turning CNC System GSK 928TEa



GSK CNC Equipment Co.,Ltd.-China Southern CNC Industrial Base



GSK's Second Industrial Park - Precision Part Machining Park



GSK's Third Industrial Park - Robot Industrial Park

GSK CNC Equipment Co., Ltd. (hereinafter referred as GSK) is specially devoted to conducting research and practice of basic equipment industrial development, providing “trinity” packaged solutions of machine tool CNC system, servo drive and servo motor, taking initiative in the expansion of industrial robot and all-electric injection molding machine field, developing the new marketing mode of machine tool exhibition hall, providing the customers with all-round professional machine tool remanufacturing solutions and services, promoting the integration of production and education, setting up the vocational education and training institute, as well as conducting highly skilled CNC personnel training. It has developed into a high-tech enterprise integrating science, education, industry and trade, thus being known as “China Southern CNC Industrial Base” .

Adhering to the corporate philosophy of “making itself a century-old enterprise and building gold quality” and the service spirit of “keeping improvement and making users satisfied” , GSK enhances the user product value & benefits through continuous technological progress and innovation, and makes unremitting efforts to promote the localization process of basic equipment industry, improve the technological level of the industry, and promote the development of China's national equipment manufacturing industry.

SINCE 1991



## GSK CNC EQUIPMENT CO., LTD.

Add: No.22 Guanda Road, Luogang District, Guangzhou, 510530, China  
Web: [Http://www.gsk.com.cn](http://www.gsk.com.cn)  
Sales: 86-20-8179 7922 8179 6410  
Fax: 86-20-2628 3800 8179 6213  
E-mail: [gsk@gsk.com.cn](mailto:gsk@gsk.com.cn)



TWITTER  
@GSKCNCChina



FACEBOOK  
@GSKCNCChina



YOUTUBE  
@GSKCNCChina



INSTAGRAM  
@GSKCNCChina

20230202

400-0152-028 | [WWW.GSK.COM.CN](http://WWW.GSK.COM.CN)



## GSK 928TEa Turning CNC System brief



GSK 928TEa Turning CNC system adopts the 32-bit high capacity industry CPU and large-scale programmable gate array integral circuit chip CPLD to form a controllable core and carry out the  $\mu\text{m}$  level precision motion control; its system function is strong; its capacity is tables and the interface displays simple and the operation is more convenient, which can be adapted with the AC servo drive equipment (Drive unit and Servo motor) made by GSK. The processes can be performed by completing the outer circle, end-face, slot, taper, arc and thread; it owns high cost-performance as well.

### Technical Features

#### I/O (input detection/output control)

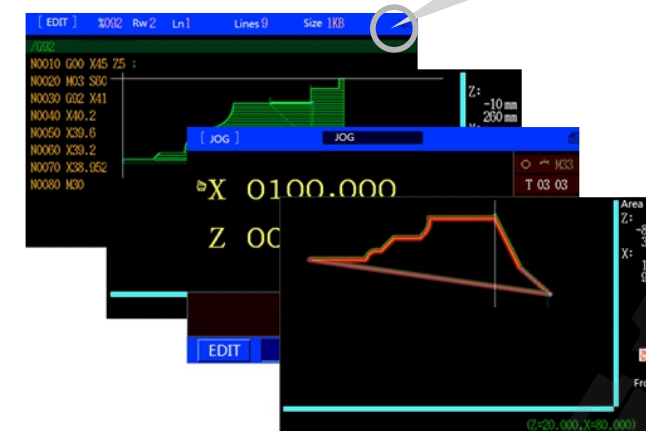
- + Controllable spindle, tool-post, chuck, tailstock, cooling, pressure detection, external start/dwell, feed-hold knob equipments (fixed pin)
- + Controllable tricolored LED, MPG, defense door, lubrication, headboard lubrication, shifting unit, feeding unit, etc. (Its pin will be determined by machine tool manufacturers)



#### Simple operation, user-friendly interface

- + It owns the flexible and variable help functions
- + Full-screen edition, component program error-correction in advance, analog drawing the motion path
- + System commands introduction of edit method
- + Simple and safe of each kind of operations, and conveniently to use

#### Help assistance



#### Design the dedicated display

Design the Dedicated Display Interface and Prompt the Operator How to Do



#### Output pulse smooth

It focuses on improving the uniformity of output pulse in the cutting state, so that the precision fine cutting, the wave on the surface of workpiece and the stop-mark of tool nose can be enhanced therefore.

#### Simultaneously execute the multiple command

Non-related accessories can be operated at the same time, so that it improves its machining efficiency.

#### High velocity smooth interpolation of short line

- + Carry out the high velocity connection transition with the feedforward controllable method
- + No stop-mark when the short line is processed the oval and parabola smoothly





## Distinctive and practical controllable and machining functions

- + Achieve the function combination of variable speed control for the multiple power units
- + Modify and achieve the dual-head turning function by setting the parameters
- + The old thread reparation function combination is used for repairing the renovation of mine bit
- + Both the Y axis drilling and feeding preparation can be performed at the same time during the cutting
- + Functional combination of dedicated path offset machining
- + Multiple modes combinational operation: 16 buttons, 8 knobs and 8 foot switches
- + Abundant macro programs and process monitoring functions can be combated against the complex applications

## Automatic turning machine, function combination of feeding control

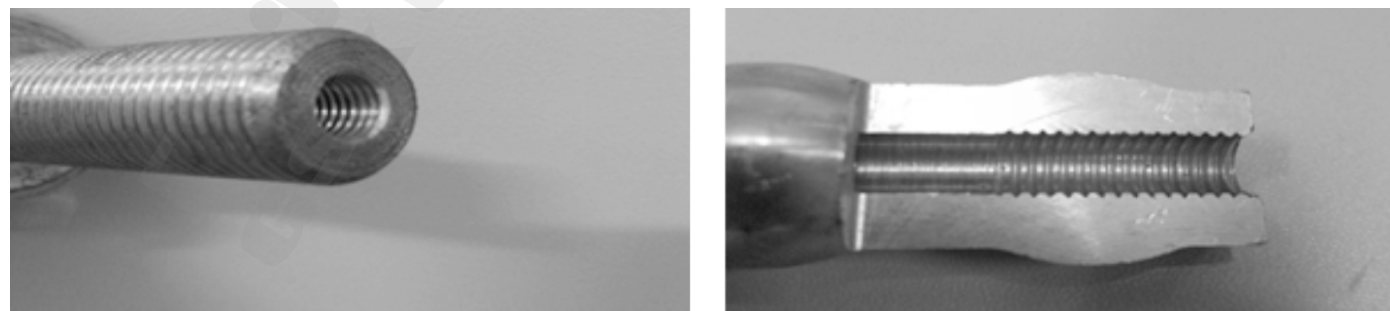
- + Control the single electric-magnetism valve by snob, button and foot switch
- + User completes the feeding by use one M code
- + Machine manufacture compiles variable feeding fault alarm content based upon the corresponding requirements
- + Separately display the state change of feeding I/O signal by window, and it is convenient to debug
- + Try to machine the qualified workpieces on the poor turning machine as possible

## Use the statement programming, carry out the control, help you out of the plc programming troubles, simple!

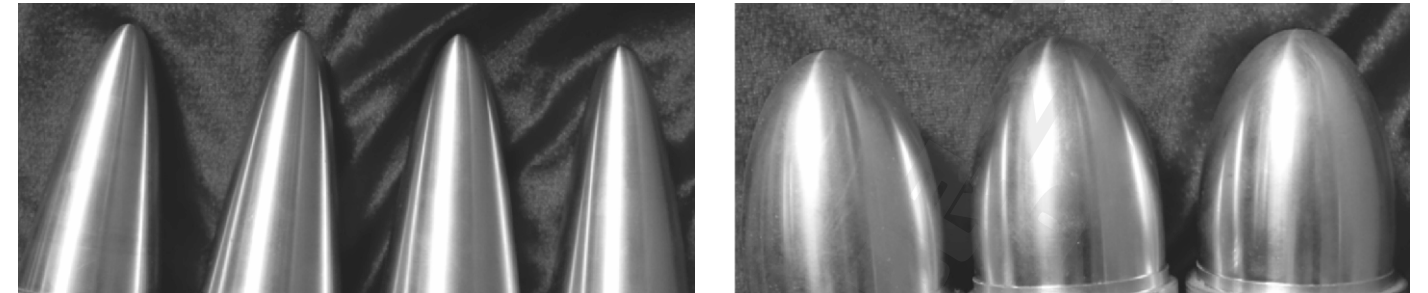
- + 25 customized M commands can be controlled more machine tool equipments
- + Compiling an emergency stop command to make more safe during operating the machine tool
- + Compiling a program machining interface, simplify the operation and to make more convenient operations

## Dedicated command G38 rigid tapping sleeve

- + As for the blind-hole that is deeper and does not easy to move the chip, which can be used the G38 to tap and then to retreat and to tap deeper, and so on. As well, it can be set the speed when the forward or backward is set before, that is, it carries out the forward slowly and backward rapidly, so that it can be guaranteed the quality and improved the efficiency
- + The customers shown that this method owns the advantages such as the beautiful of the port of workpiece, uneasy broken of the cut and easier to adjust for the customers, etc

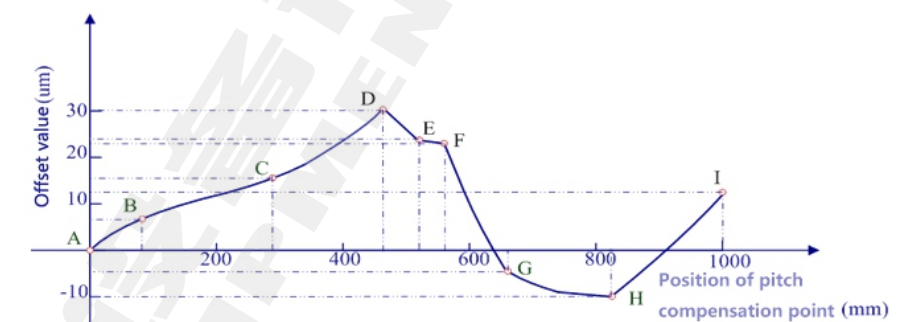


## Statement programming carries out the complicated programming machining such as the oval and parabola!



## Fine compensation to pitch and corner

Automatically perform the fine smooth compensation as long as input several groups' corner data from the curve!



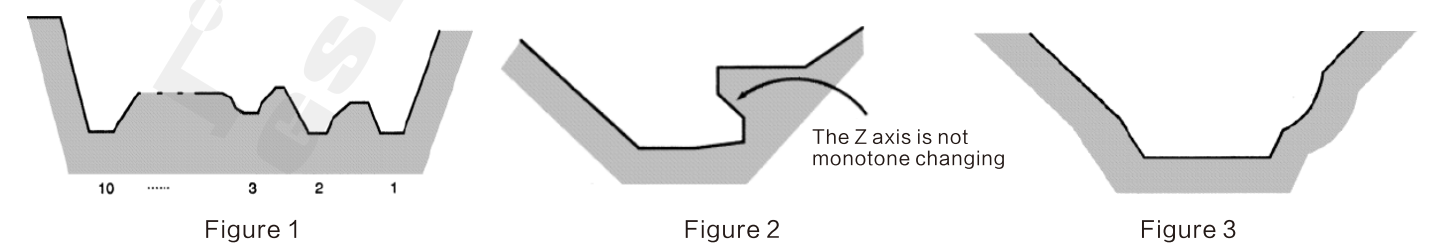
### Characteristic Functions

## Groove processing function

A group of compound cycled rough-cutting of groove commands can be carried out by using the G71 axis surface rough-machining circular commands. The machining workpiece does not need to be individually increased or decreased along with the outline of X axis direction; up to 10 grooves can be kept of each workpiece along with X axis direction, refer to the following diagram:

However, the workpiece should be individually increased or decreased along with the outline of Z axis; the outline of the following diagram cannot be processed:

If the workpiece individually changes along with the outline of Z axis direction, and the machining then can be performed, refer to the following diagram:



Technical features

Item	Specification
Motion Control	Controllable axes: X, Y and Z; Simultaneously controllable axes (interpolation axes): 3 axes (X, Z and Y)
	Interpolation function: X, Z two-axis line, arc, thread interpolation, Z/X/Y three-axis linear linkage
	Position command range: -9999.999 mm ~ 9999.999mm; the least command unit: 0.001mm
	Electric gear: command multiple coefficient 1 ~ 99999, command frequency-division coefficient 1 ~ 99999
	Rapid traverse rate: Up to 30000mm/min
	Rapid override: 25%, 50%, 75% and 100%, four-level real-time adjustment
	Cutting feedrate: Up to 15000mm/min
	Feedrate: 0 ~ 150%, 16-level real-time adjustment
	Manual feedrate: 0mm/min ~ 1260mm/min, 16-level real-time adjustment; alternatively, customize the feedrate immediately
	MPG feed: 0.001mm, 0.01mm and 0.1mm, three shifts
G Code	Acceleration/deceleration speed: Cutting feed can be used either the exponential acceleration/deceleration speed or the linear one
	48 G commands, including the line, arc, thread machining, polygon turning machine and multiple canned circular and compound circular functions
Thread Machining	It can be machined the single-head/multiple-head metric/inch straight thread, cone thread, end-face thread and variable-pitch thread; the thread tail-retraction length, angle and speed character can be set; as well the tail-retraction treatment at its rapid rate; thread pitch: 0.001mm ~ 500mm or 0.06 gear/inch ~ 25400 gear / inch; it can be machined the consecutive thread and owns the thread rotation and tapping functions
	Spindle encoder: Setting range of encoder linear number: 100 p/r ~ 9000p/r; the driving ratio between encoder and spindle: 1:1
Precision Compensation	Reverse interval compensation: 0 mm ~ 10.000mm
	Pitch error compensation: 300 compensation points for each axis; establish data by using the equal interval distance or corner description; system performs the refined linear compensation
	Tool compensation: 16-tool position, 64 group tool length compensation, cutter radius compensation (compensation method C) Tool-setting method: trial tool-setting, fixed-point tool-setting; cutter compensation execution method: modify the coordinate to perform the cutter compensation, move the tool to perform the cutter compensation.
M Code	There are 46 basis M miscellaneous functional commands; There are 25 M commands which are self-customized to carry out the dedicated function by user
T Code	Up to 16 tool position; the controllable procedure of the tool-change can be selected by setting the parameter of tool-post type The tool-post sets to 0 when using the gang-tool is performed
Spindle Speed Control	Controllable mode of revolving speed switch value: the 4-gear direction controllable output range of S command is S01 ~ S04; alternatively, BCD encode output range of 16-gear is S00 ~ S15
	Controllable mode of revolving analog voltage: S command code specifies the revolving speed per minute or cutting linear speed (constant linear speed); output the 0 ~ 10V to spindle frequency-converter; the spindle is stepless variable speed; and it supports the 4-gear spindle mechanical gears M41 ~ M44 To support the controllable method shifting between speed and position of GS3000 servo spindle, which can be carried out the linkage function both the spindle and Z or X axis
I/O Function	I/O function diagnosis display
	I/O port: 32-point input/ 32-point output
Macro Command Program	Statement macro command: Assignment state: completion assignment, multiple arithmetic and logical calculation
	Conditional statement: Complete to the condition judgment and skip

Item	Specification
Interface Display	Indicator: 7 inches, 800*480 lattice, true color LCD, LED backlight
	Display method: The Chinese or English interface is set by parameter; it can be displayed the machining path diagram with real-time
	Program capacity: Up to 255 programs, total program capacity: 33MB
Program Edition	Edit method: Full-screen edit, support the relative/absolute coordinate compound programming, support the program calling and the subprogram multiple nesting. Program analog drawing detection
Communication	USB: support the machining procedure, parameter, cutter compensation lead-in/lead-out and the U-disk upgrade of system software.
	Rs232: support CNC and PC, CNC and CNC two-way transmission program, parameters, cutter compensation LAN: support the communication between CNC and PC
Adapted Drive	GSK DA98A digital AC driver and SJT series incremental servo motor with standard configured pulse+direction signal input

Installation dimension

Installation dimension diagram of 928TEa

