

CNC MILLING MACHINE



Model: XK400

Specification	
X axis	450mm
Y axis	300mm
Z axis	450mm
Distance from spindle nose to work table surface	100-550mm
Distance from difference	383mm
X axis rapid feed speed	12m/min
Y axis rapid feed speed	12m/min
Z axis rapid feed speed	8m/min
Cutting feed	1-10m/min
Three axis servo motor torque1	6/6/7.7N.M
Table size	900X280mm
Max.loading capacity	200kg
Height of working table from floor	800 mm
T-slot	3x16x110mm
Connection type	Belt type
Speed	8000rpm
Spindle taper	BT40
Spindle motor	3.7kw
Positioning accuracy (standard)	±0.005/300mm
RE-positioning accuracy (standard)	±0.003mm

Controller Specification	
Brand	GSK
Model	GSK25i
Axis control function	
Controlled axes	Up to 8 controlled axes plus 1 servo spindle
Linkage axes	3-axis linkage/4-axis linkage/5-axis linkage
PLC axis control controlled axes	Up to 4 axes
Feed axis synchronous control	Up to 4 groups
Position detection device	Pulse encoder (absolute), grating ruler (absolute)
Least command increment IS-B	0.001mm/0.0001inch/0.001°
Least command increment IS-C	0.0001mm/0.00001 inch/0.0001°
Min. detection unit	
Least command increment IS-B	0.001mm/0.0001inch/0.001°
Least command increment IS-C:	0.0001mm/0.00001 inch/0.0001°
Max. command value	±999999.9999mm/±99999.9999inch/±999999.9999°
Max. feed rate	200m/min
Automatic acceleration/deceleration	Linear, S curve acceleration/deceleration before interpolation, jerk control
High-speed and high-precision machining	G05 advanced preview of high-speed small line section, path smoothing, up to 1000 blocks can be previewed and pre-read.
<u>Five-axis control function</u>	
RTCP function	Tool center point control G43.4
Inclined plane machining	Five-axis positioning (3+2) machining G68.2
Five-axis manual feeding	Manual feed in tool axial direction, tool axis right-angle direction, or tool center point rotation direction
<u>Programming function</u>	
Program format	
ISO command standard, program name	O + 4 digits.
Block number	N + 5 digits; G+ 3 digits; coordinate value IpY6 digits before decimal and 4 digits behind decimal, S +5 digits, M + 3 digits, F + 6 digits before decimal and four digits behind decimal.
Interpolation function	Positioning, linear interpolation, circular interpolation, helical interpolation, cylindrical interpolation, polar coordinate, spline curve interpolation.
Work piece coordinate system	
Basic coordinate systems	G52YG59; additional extensive coordinate systems JG54.1J:48 groups
Tool compensation	C tool compensation function, 400 groups of tool compensation
Programming function	More than 100 G commands in total, including 12 types of common canned cycle, 19 type of special canned cycle and compound cycle, face milling, coordinate system rotation, scaling, mirror image, automatic measurement of tool length, tool center point control, inclined plane machining command, four nesting levels of subprogram call, B type user macro program.
Program storage capacity	240M, which can be extended to 500M.

Number of programs storable	400
Reference point function	G27 Reference position return check; G28 Reference position return; G29 Return from reference position; G30 2nd, 3rd, 4th reference point return.
Skip function	G31 Skip function, used for measuring tool and work piece
Programmable control function	Programmable stroke limit (G22, G23), programmable data input (G10)
Operation function and display function Operation mode select ON/OFF operation	AUTO, MDI, EDIT, MANUAL, MPG, ZERO RETURN, DNC Single block, block skip, machine lock, auxiliary function lock, optional stop, dry run, restart, emergency stop, over travel release, cycle start, feed hold, manual continuous feed, step, rapid traverse, MPG, spindle override, feed rate override, rapid traverse override
Setting	Tool length compensation measurement input, work piece offset measurement input, parameter setting help, servo parameter setting.
Program operation	New, edit, delete, rename, search, copy, paste, read, transmission, background editing, dynamic graph simulation
Help function	Alarm message explanation, operation description, parameter description, macro command description, G command description, PLC address description, counter
Display	10.4 inch LCD with resolution of 800*600, or 8.4 inch LCD with resolution of 640*480, Chinese/English display, dynamic graph, clock, process time, run time, part count, modal information, actual speed, hardware/software version, ladder diagram, alarm message, diagnosis message, alarm history, operation history
<u>Operation function and display function</u> M function	M code with 3 bits, multiple M code command, M code for calling macro command or subprogram
T function	T code with three bits, tool life management
S function	Y10V analog voltage output from analog spindle interface, digital spindle, S code with five bits, spindle speed setting, multiple spindle control, spindle orientation, M type and T type gear shift, floating tapping, rigid tapping, spindle override, spindle speed fluctuation detection
<u>Precision compensation function</u> Backlash compensation	Separately compensates rapid traverse and cutting feed rate
Pitch compensation	Interpolation-type unidirection/ bidirection pitch error compensation

Data interface function	Ethernet, USB and RS232 interfaces on the front panel, through which data transmission, DNC and network function can be realized.
Data input/output	input/output programs, NC parameters, compensation values, offset values, macro variable values, PLC programs, PLC parameters input/output through data interface, Ethernet, USB interface or DNC.
Network function	Ethernet communication, network DNC, remote monitor, remote diagnosis, remote maintenance.
I/O interface	Terminal block type I/O DI/DOJ64/48 Flat cable type I/O DI/DOJ48/32J2 group 24/16J Flat cable analog I/O DI/DOJ24/16 AI/AOJ2 /2J12 bit DA $\pm 10V$ Max. extension points DI/DOJ1024 points/1024 points
Servo drive interface	GSK-Link Ethernet bus interface Interface of external position detection unit (for fully-closed loop) Adaptive to HEIDENHAIN absolute grating ruler, angular encoder, Endat2.2 protocol, up to 6 axes.
<u>PLC function</u> PLC specification	Built-in PLC, ladder diagram editing, command list programming compatible format; 10 basic commands, 49 function commands; Two level programs, scan period of first level program: 8ms, basic command execution time: 0.5us/step.
Max. program steps	12000. The ladder diagram can be displayed and edited on line, and be uploaded and downloaded.
Intermediate relay (R)	1100 bytes (R0 to R1099)
Data register (D)	1860 bytes JDO to D1859J
Counter (C)	400 bytes JCO to C399J100 PCS
Timer (T)	200 bytes JTO to T199J100 PCS
Message display request signal (A)	32 bytes (A0 to A31)
Keep relay (K)	32 bytes (K0 to K31)
Skip Label (L)	9999JL1YL9999J
Subprogram (P)	512JP1YP512J
Safety and Maintenance Safety function	Emergency stop, hard limit, 1st soft limit, 2nd soft limit, multi-authority data protection, spindle safety speed, feed safety speed, NC alarm, PLC alarm, servo alarm, following error monitor, servo OFF, interlock.
Maintenance function	Operation history, alarm history, machining history, CNC running state diagnosis, PLC interface diagnosis, data backup and recover for CNC and PLC data, speed wave form diagnosis, network diagnosis and maintenance, servo setting and servo load, state monitor and diagnosis.
Weight	2000kg
Overall dimensions	1800×1500×2200mm
Standard Accessories	Complete with all standard accessories