

KIT

600G/800G

Optimal Grinding Machining for Semiconductor Wafer Production

WIA Machine Tools CNC Grinding Machine

WIA MACHINE TOOLS

Technical Leader

The KIT600G/800G by WIA Machine Tool is an optimal solution for grinding machining of quartz and ceramic components. It is specifically optimized for processing heat-resistant materials, ensuring low defect rates and ultra-precision machining. The machine delivers stable machining accuracy and high productivity.

		KIT600G	KIT800G
Max. Turning Dia.	mm(in)	Ø560 (Ø22")	Ø800 (Ø31.5")
Chuck Size	inch	12"	12"
Bar Capacity	mm(in)	Ø38 (Ø1.5")	Ø38 (Ø1.5")
Spindle Speed (rpm)	r/min	500 [2,500]	500 [2,500]
Motor (Max/Cont.)	kW(HP)	15/11 (20/15)	15/11 (20/15)
Grinding Sp. Speed (rpm)	r/min	6,000 [10,000]	6,000 [10,000]
Travel (X/Z)	mm(in)	380/450 (15"/17.7")	500/550 (19.7"/21.7")
ATC - No. of Tools	EA	6 [8]	8 [6, 10, 12]

[]: Option

KIT

600G/800G

Grinding Machining for Semiconductor Wafer Production

- Equipped with an integrated high-rigidity bed structure
- Applied full box guideways on all axes
- Grinding spindle optimized for ceramic material machining
- Structure designed to prevent dust ingress and coolant leakage
- Grinding unit orientation function and optional ATC available



01 BASIC STRUCTURE

Ultimate Achievement in Productivity Enhancement through Advanced Mechanism Design

High Precision Spindle

- Angular ball bearings (enhanced rotational accuracy)
- 12" (A2-8) / 500 [2,500] r/min
- Applied V-ribbed belt
- Air purge (std.)

Built-in Grinding Spindle

- Tool Shank : BT40
- 6,000 [10,000] r/min

UNIT BASE

- Constructed with cast iron material offering excellent vibration damping
- Al. option available to minimize thermal displacement



REDUCTION OF NON-CUTTING TIME BY FAST RAPID SPEED

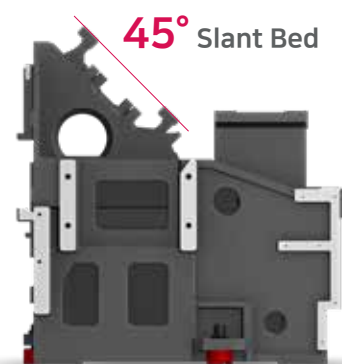
ALL-IN-ONE TYPE OF BED

High-Accuracy, High-Rigidity One-Piece Bed

The 45° slant-type bed provides excellent chip evacuation, and its design allows easy access to the chuck during tool setup, enhancing operator convenience.

45° Slant-Type Bed ▶ Excellent Sludge and Coolant Discharge

SLIDE : 45°, HEAD BODY : Flat Type



GUIDEWAY

Box Guideway

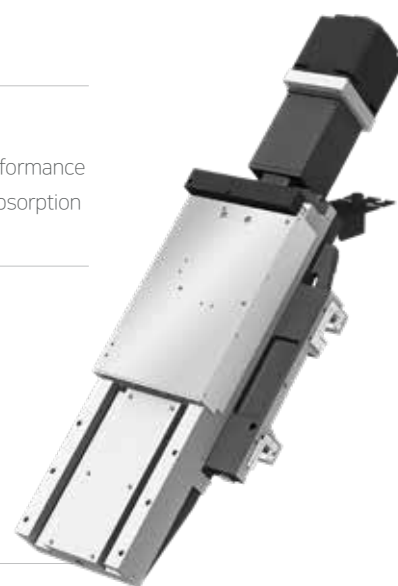
All axes of the KIT600G/800G adopt box guides, delivering excellent feed performance for high-quality grinding. In particular, the guides provide superior vibration absorption during workpiece machining, enabling highly precise machining.

Double-anchor Ball Screw

Using a double-anchor method, both ends of the ball screw are fixed to ensure precise parallelism with the box guide, achieving stable feed motion. In particular, large-diameter ball screws with applied preload are used to compensate for thermal deformation and enhance rigidity.

Rapid Traverse Rate
(X/Z)

20/24 m/min (787/945 ipm)



⊙ X-Axis Load : **2.14** N·m (Existing base equipment X-axis load : 4.06 N·m)

KIT600G Travel (X/Z)

380/450 mm (15"/17.7")

KIT800G Travel (X/Z)

500/550 mm (19.7"/21.7")

02 MAIN & GRINDING SPINDLE

Advanced Main & Grinding Spindle Design for High-Precision Machining

Spindle Specifications

[] : Option

척사이즈	Spindle Speed	Motor (Max/Cont.)	Torque (Max/Cont.)
12"	500 rpm [2,500 rpm]	15/11 kW (20/15 HP)	205.8/68.6 N·m (151.8/50.6 lbf·ft)

Grinding Spindle Specifications

Tool Shank	Spindle Speed	Motor (Max)
BT40	6,000 rpm	3.7 kW [5.5 kW] [7.5 kW] (5 HP [7.4 HP] [10 HP])

HIGH ACCURACY & EXCELLENT PERFORMANCE

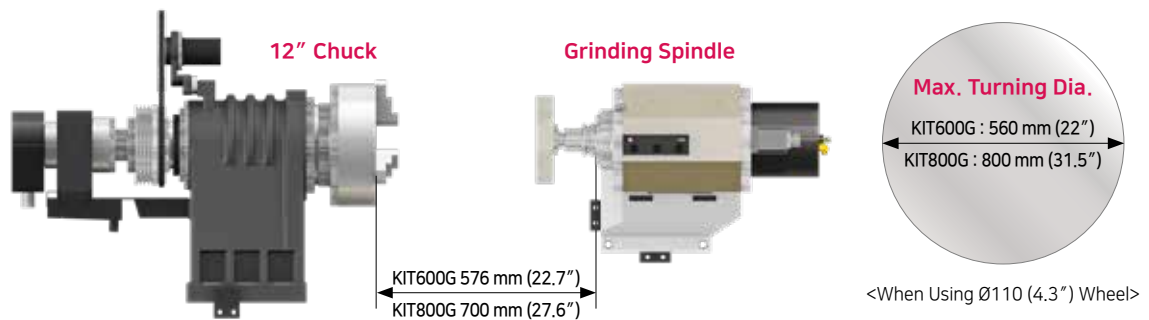
SPINDLE

High-Precision Spindle

The KIT600G/800G spindle uses angular contact ball bearings, minimizing thermal deformation even at high speeds, enabling more precise machining.

V-Ribbed Belt Application

The KIT600G/800G uses a high-power, high-speed V-ribbed belt, reducing belt slip. By minimizing belt length, it also decreases vibration transmitted to the spindle and extends belt life.



GRINDING SPINDLE

Grinding Spindle Optimized for Ceramic Materials

The KIT600G/800G features a grinding spindle with up to 6,000 rpm, delivering optimal performance for quartz and ceramic material machining.



Grinding Unit Orientation Function [OPT.]

The grinding unit orientation function, using a magnetic encoder, allows tools to be mounted in the same position as the grinding unit, improving machining accuracy.



03 USER CONVENIENCE

Various Devices for User Friendly

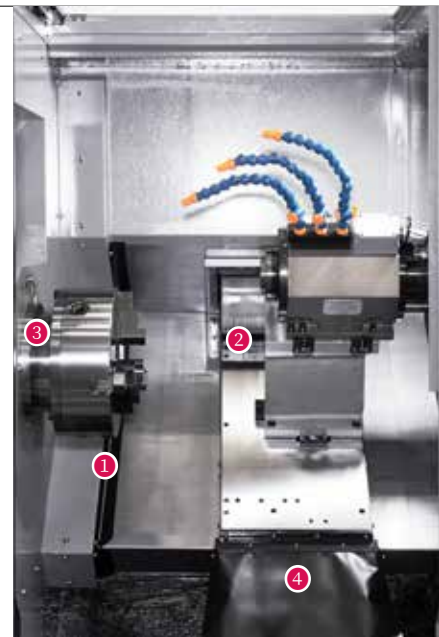
CHIP DISPOSAL SOLUTION & COOLANT UNIT

Prevention of Dust Ingress and Coolant Leakage

- ① The KIT600G/800G uses double wipers inside the machining area to block sludge and foreign particles generated during quartz and ceramic machining.
- ② A multi-cover protects the exposed lower part of the grinding spindle feed shaft during grinding.
- ③ An air purge system prevents dust, coolant, and other contaminants from entering the spindle during machining, protecting the spindle.
- ④ Guide covers ensure that sludge and debris generated during machining quickly flow into the sludge tank, protecting the machine and facilitating sludge disposal.

Easy Sludge Handling

The sludge tank slides open and closed from the rear of the machine, making it easy to clean sludge and dust, and maintain a clean machine condition.

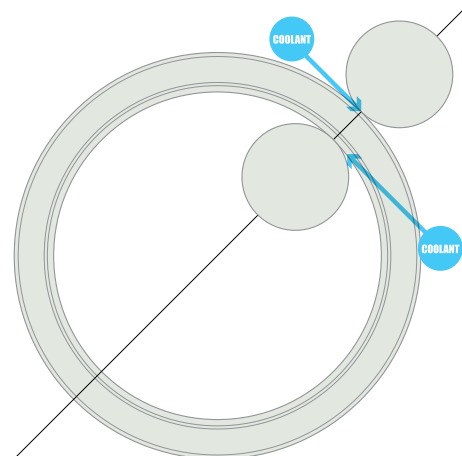


PRODUCTIVITY ENHANCEMENT FEATURES



Coolant Nozzle Position Control Function

Separate coolant pumps are installed for external and internal machining, and the nozzle positions for each pump can be independently set and controlled. This reduces the time needed to adjust nozzle positions before machining and improves chip evacuation efficiency.



Optional

FANUC - SMART PLUS



THE COMPATIBLE ALL-ROUND CONTROL

Latest FANUC Controller – Standard Equipped

Smart Machine Control	Fast Cycle Time Technology
	Fine Surface Technology
	Smart Servo Control Technology
Conversational Program	SmartGuide-i
i-HMI	Machining-aid Function
Part Program Storage	5120M (2MB)
No. of Registerable Programs	1000 개



USB Port (Standard)

Standard Program I/O now supports USB ports in addition to the conventional CF memory card and LAN methods, enhancing convenience.

SMART CNC (FANUC Smart Plus)



1. Dialogue Program (Smart Guide-i)

This software offers the maximum user convenience through dialogue manipulation from setup to processing. This includes writing processing programs and simulation checks.

2. LAUNCHER

This software offers shortcuts for quick access to specialized features and frequently used features.

SPECIFICATIONS

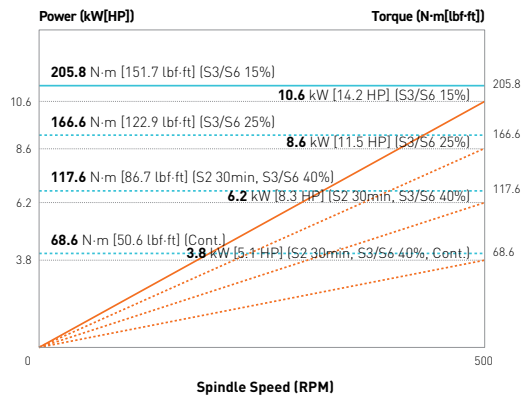
Standard & Optional

● : Standard ○ : Option ☆ : Prior Consultation - : Non Applicable

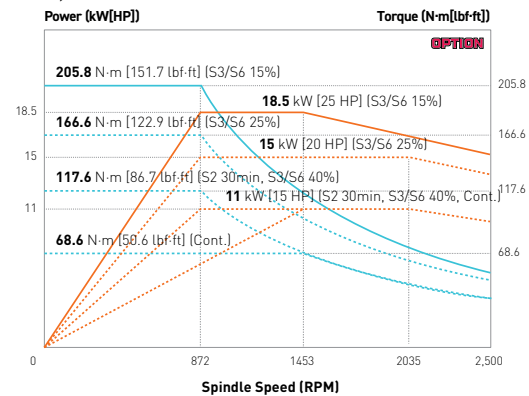
주축 스펙들	KIT600G	KIT800G
C축 기능 (홈가공)	☆	☆
에어퍼지 (Air Purge)	●	●
Splash Guard		
Door 확장형	●	●
보조창 Type	-	-
연삭 Unit		
Built In 3.7kW	●	●
Built In 5.5kW	○	○
Built In 7.5kW	○	○
고객사 별도 지정	○	○
연삭 Unit 컨트롤		
M-Code 방식	●	●
S-Code 방식	○	○
볼륨제어 방식	○	○
오리엔테이션 기능	○	○
척 (Chuck)		
12인치 수동척	●	●
12인치 에어척	○	○
진공척 부착 준비	○	○
쿨러트 펌프		
ACP-1100MF	●	●
ACP-400F	○	○
ACP-250F	○	○
고객사 별도 지정	○	○
기타		
Oil Cooler	○	○
집진기	○	○

Spindle Output/Torque Diagram

500 RPM



2,500 RPM

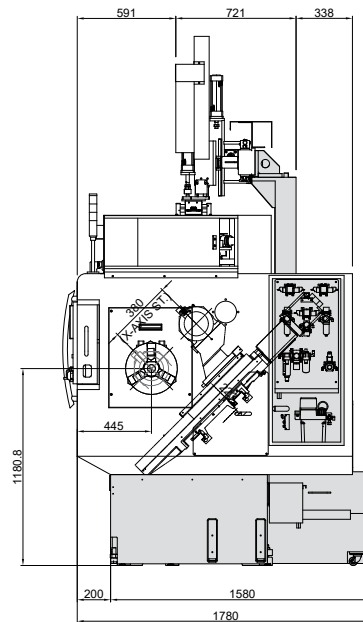
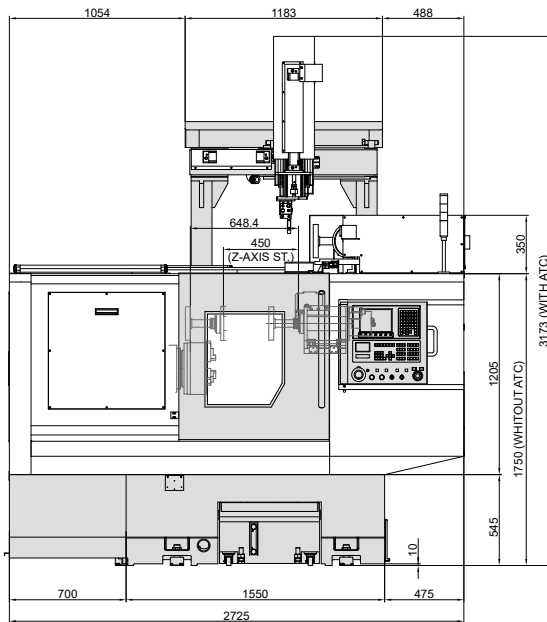


SPECIFICATIONS

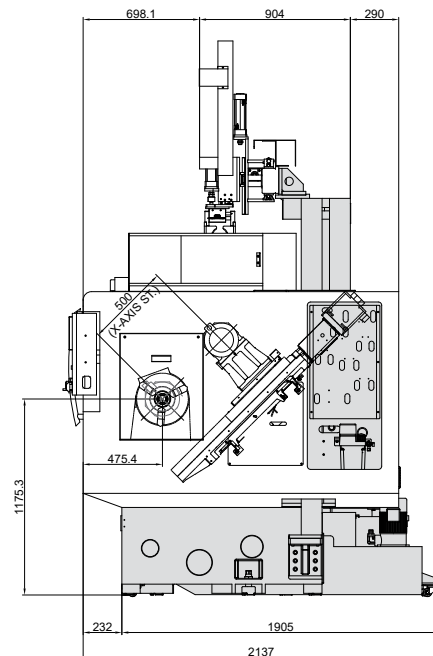
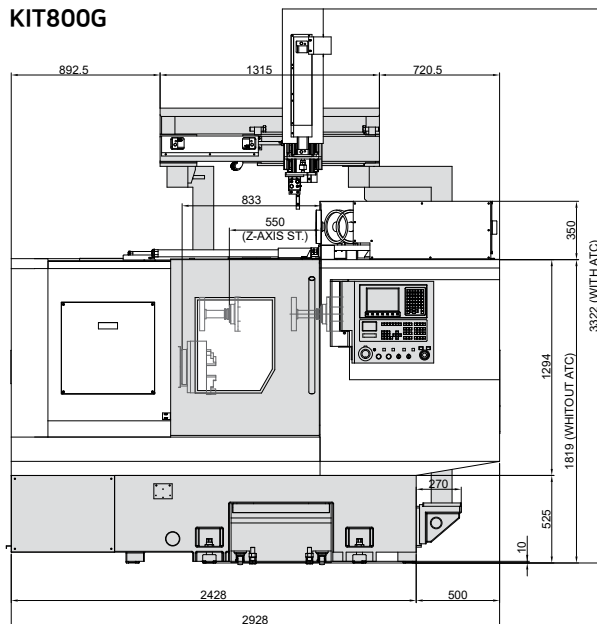
External Dimensions

unit : mm(in)

KIT600G



KIT800G

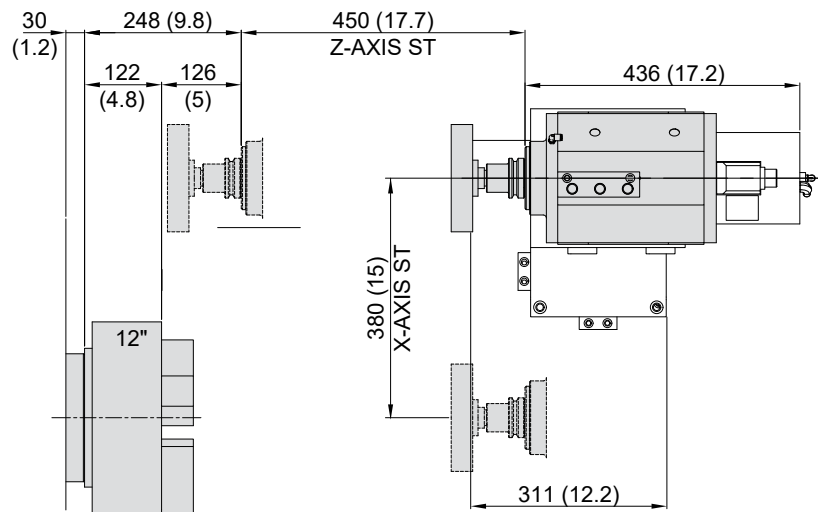


SPECIFICATIONS

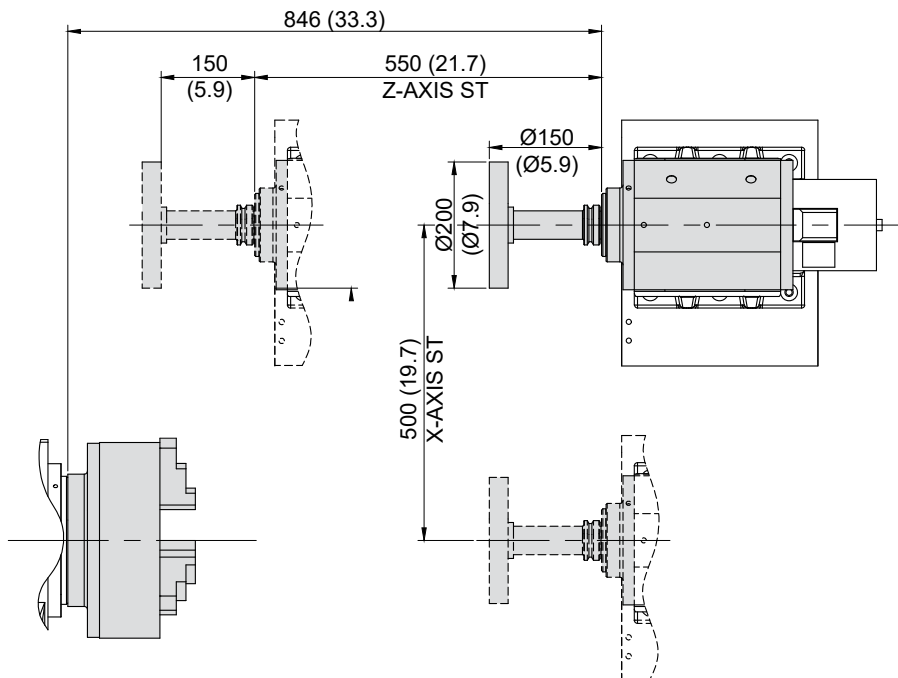
Stroke of Grinding Spindle

unit : mm(in)

KIT600G



KIT800G



SPECIFICATIONS

Specifications

[] : Option

ITEM			KIT600G	KIT800G
CAPACITY	Swing Over the Bed	mm(in)	Ø850 (Ø33.5")	Ø900 (Ø35.4")
	Max. Turning Dia.	mm(in)	Ø560 (Ø22")	Ø800 (Ø31.5")
	Bar Capacity	mm(in)	Ø38 (Ø1.5")	
SPINDLE	Chuck Size	inch	12"	
	Spindle Bore	mm(in)	Ø86 (Ø3.4")	
	Spindle Speed (rpm)	r/min	500 [2,500]	
	Motor (Max/Cont.)	kW(HP)	15/11 (20/15)	
	Torque (Max/Cont.)	N·m(lbf·ft)	205.8/68.6 (151.8/50.6)	
	Driving Method	-	BELT	
	Spindle Nose	-	A2-8	
FEED	Travel (X/Z)	mm(in)	380/450 (15"/17.7")	500/550 (19.7"/21.7")
	Rapid Traverse Rate (X/Z)	m/min(ipm)	20/24 (787/945)	
	Slide Type	-	BOX	
GRINDING SPINDLE	Spindle Speed (rpm)	r/min	6,000 [10,000]	
	Motor (Max)	kW(HP)	3.7 [5.5] [7.5] (5 [7.4] [10])	
	Driving Method	mm(in)	BUILT-IN	
ATC	Number of Tools	ea	6 [8]	8 [6, 10, 12]
	Tool Shank	-	BT40	
	Max. Tool Dia.	mm(in)	Ø200 (Ø7.9")	
	Max. Tool Length	mm(in)	150 (5.9")	
	Max. Tool Weight	kg(lb)	6 (13)	
	Tool Selection Method	-	FIXED	
TANK	Coolant Tank	ℓ (gal)	190 (419)	210 (463)
POWER SUPPLY	Electric Power Supply	kVA	24	
	Voltage	V/Hz	220/60 (200/50)	
MACHINE	Floor Space (L×W)	mm(in)	2,727×1,780 (107.4"×70.1")	2,928×2,137 (115.3"×84.1")
	Height	mm(in)	1,750 (68.9") [With ATC : 3,173 (124.9")]	1,819 (71.6") [With ATC : 3,322 (130.8")]
	Weight	kg(lb)	3,300 (7,275)	4,500 (9,921)
NC	Controller	-	FANUC i Series - Smart plus	

Specifications are subject to change without notice for improvement.

KIT600G/800G
CNC Grinding Machine

12
+
13

CONTROLLER

FANUC i Series - Smart plus

[] : Option

Controlled axis / Display / Accuracy Compensation	
Control axis	2 axis (X, Z) / 3 axis (X, Z, C) / 4 axis (X, Z, Y, C) 5 axis (X, Z, B, C, A) / 6 axis (X, Z, Y, B, C, A) 7 axis (X1/Z1, X2/Z2, B2, C1/C2)
Simultaneously controlled axis	2 axis [Max. 4 axis]
Designation of spindle axis	3 axis [Max. 4 axis]
Least setting Unit	X, Z, Y, B axis : 0.001 mm (0.0001 inch) C, A axis : 0.001 deg
Least input increment	X, Z, Y, B axis : 0.001 mm (0.0001 inch) C, A axis : 0.001 deg
Inch / Metric conversion	G20 / G21
High response vector control	
Interlock	All axis / Each axis
Machine lock	All axis
Backlash compensation	± 0-9999 pulses (exc.Rapid traverse / Cutting feed)
Position switch	
LCD / MDI	10.4 inch LCD unit
Feedback	Absolute motor feedback
Stored stroke check 1	Over travel
Stored stroke check 2, 3	
PMC axis control	
Operation	
Automatic operation (Memory)	
MDI operation	
DNC operation	Needed DNC software / CF card
Program restart	
Wrong operation prevention	
Program check function	Dry run
Single block	
Search function	Program Number / Sequence Number
Interpolation functions	
Nano interpolation	
Positioning	G00
Linear interpolation	G01
Circular interpolation	G02, G03
Exact stop mode	Single : G09, Continuous : G61
Dwell	G04, 0 ~ 9999.9999 sec
Skip	G31
Reference position return	1st reference : G28, 2nd reference : G30 Ref. position check : G27
Thread synchronous cutting	G33
Thread cutting retract	
Variable lead thread cutting	
Multi / Continuous threading	
Feed function / Acc. & Dec. control	
Manual feed	Rapid traverse Jog : 0~2,000 mm/min (79 ipm) Manual handle : x1, x10, x100 pulses Reference position return
Cutting Feed command	Direct input F code
Feedrate override	0 ~ 200% (10% Unit)
Rapid traverse override	1%, F25%, 50%, 100%
Override cancel	
Feed per minute	G98
Feed per revolution	G99
Look-ahead block	1 block
Program input	
Tape Code	EIA / ISO
Optional block skip	9 ea
Absolute / Incremental program	G90 / G91
Program stop / end	M00, M01 / M02, M30
Maximum command unit	± 999,999.999 mm (± 99,999.9999 inch)
Plane selection	X-Y : G17 / Z-X : G18 / Y-Z : G19
Workpiece coordinate system	G52, G53, 6 pairs (G54 ~ G59)
Manual absolute	Fixed ON
Programmable data input	G10
Sub program call	10 folds nested
Custom macro	#100 ~ #199, #500 ~ #999
G code system	A, B/C
Programmable mirror image	G51.1, G50.1
G code preventing buffering	G4.1
Direct drawing dimension program	Including Chamfering / Corner R

Program input	
Multiple repetitive cycles I, II	
Canned cycle for turning	
Auxiliary function / Spindle speed function	
Auxiliary function	M & 4 digit
Level-up M Code	High speed / Multi / Bypass M code
Spindle speed function	S & 5 digit, Binary output
Spindle override	0% ~ 150% (10% Unit)
Multi position spindle orientation	M19 (S##)
FSSB Rigid tapping	
Constant surface speed control	G96, G97
Tool function / Tool compensation	
Tool function	T & 2 digit + Offset 2 digit
Tool life management	
Tool offset pairs	128 pairs
Tool nose radius compensation	G40, G41, G42
Geometry / Wear compensation	
Direct input of offset measured B	
Editing function	
Part program storage size	5,120m (2MB)
No. of registerable programs	1,000 ea
Program protect	
Background editing	
Extended part program editing	Copy, move and change of NC program
Memory card program edit	
Data input / output & Interface	
I/O interface	CF card, USB memory Embedded Ethernet interface
Screen hard copy	
External message	
External key input	
External workpiece number search	
Automatic data backup	
Setting, display and diagnosis	
Self-diagnosis function	
History display & Operation	Alarm & Operator message & Operation
Run hour / Parts count display	
Maintenance information	
Actual cutting feedrate display	
Display of spindle speed / T code	
Graphic display	
Operating monitor screen	Spindle / Servo load etc.
Power consumption monitoring	Spindle & Servo
Spindle / Servo setting screen	
Multi language display	Support 24 languages
Display language switching	Selection of 5 optional Languages
LCD Screen Saver	Screen saver
Unexpected disturbance torque	BST (Back spin torque limit)
Function for machine type	
Cs contour control (C & A axis)	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Polar coordinate interpolation	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Cylindrical interpolation	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Polygon turning (2 Spindles)	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Canned cycle for drilling	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Spindle orientation expansion	MS, SY TTS, TTMS, TTSY
Spindle synchronous control	MS, SY TTS, TTMS, TTSY
Torque control	MS, SY TTS, TTMS, TTSY
Y axis offset	Y, SY, TTSY
Arbitrary angular control	Y, SY, TTSY
Composite / Superimposed control	MS, SY, TTS, TTMS, TTSY
Balance cutting	TTS, TTMS, TTSY
Option	
Fast ethernet	Needed option board
Data server	Needed option board
Protection of data at 8 levels	
Tool offset pairs	200 pairs
Helical interpolation	
Conversational Program	SmartGuide-i
Look-ahead Block	40 ea, 200 ea (AICC II)

Figures in inch are converted from metric values.

The FANUC controller specifications are subject to change based on the policy of company CNC supplying.

GLOBAL NETWORK



WIN MACHINE TOOLS

Headquarter / R&D Center 106, Yongji-ro, Seongsan-gu, Changwon-si, Gyeongsangnam-do, Republic of Korea TEL : +82 55 225 9999

Overseas Sales Team 13, Iljik-ro 12beon-gil, Gwangmyeong-si, Gyeonggi-do, Republic of Korea TEL : +82 55 225 9645

OVERSEAS OFFICES

America corp. 450 Commerce Blvd, Carlstadt, NJ 07072, USA TEL : +1-201-987-7298

Europe GmbH Alexander-Fleming-Ring 57, 65428 Russelsheim Germany TEL : +49-0-6142-9256-0

China corp. Company No.16 Fenghuang Road, Fenghuang Town, Zhangjiagang City, Jiangsu Province, China TEL : +86-512-5637-9719

CIS Branch Office 050051, Kazakhstan, Almaty, Elebekova street 10, B.3 Office no. 103 TEL : +7-727-355-7133

India Pvt. Ltd. #4/169, 1st Floor, LOTTE BLDG, Rajiv Gandhi Salai, (OMR), Kandanchavadi, Chennai - 600096, Tamilnadu, India TEL : +91-76-0490-3348

WIN MACHINE TOOLS



home page



facebook



youtube



instagram



linkedin