

**GOING**  
高懿精機

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源自臺灣 · 德國技術  
FROM TAIWAN · GERMAN TECHNOLOGY

鑽攻雕銑 无所不能  
Roughnecks engraving and milling omnipotent

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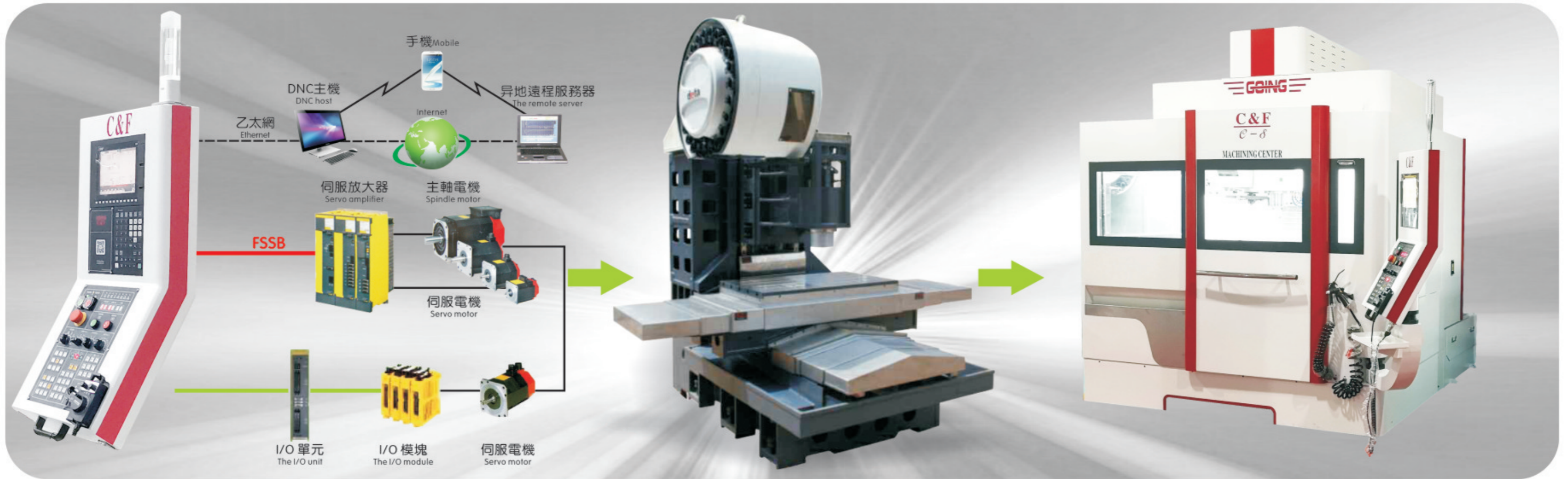
**GOING**  
高懿精機





# 控制系統與機械融為一體

The control system with high precision



# 提供專業的技術產品與整體解決方案

Provide technical products and professional solutions



## 石墨加工機 G-600

Graphite Processor G-600

X軸 Axis: 600(mm)  
Y軸 Axis: 500(mm)  
Z軸 Axis: 250(mm)

## 立式加工機 GY-1100

Vertical Machining GY-1100

X軸 Axis: 1100(mm)  
Y軸 Axis: 600(mm)  
Z軸 Axis: 600(mm)

## 五軸加工機 CF-400

Five-axis Processing Machine CF-400

X軸 Axis: 1100(mm)  
Y軸 Axis: 500(mm)  
Z軸 Axis: 600(mm)

## 複合加工機 CF-500

Compound Machine CF-500

X軸 Axis: 1100(mm)  
Y軸 Axis: Z2臥頭Lying head 450(mm)  
Z1臥頭Lying head 600(mm)  
Z軸 Axis: Z2臥頭Lying head 600(mm)

## 臥式加工機

Horizontal Processing Machine

X軸 Axis: 1100(mm)  
Y軸 Axis: 800(mm)  
Z軸 Axis: 1100(mm)



**From the rigid mechanical precision  
To determine the strength  
of mechanical structure rigidity**

**立柱加寬加強 (持久)**  
Column broadening strengthen (permanent)  
**立柱不變形**  
Vertical deformation  
按裝刀庫立柱不受外力影響  
According to the magazine column is not affected by external force

**Z軸無配置 (穩定)**  
Z axis without balance (stability)  
**快速位移時穩定**  
Steady and rapid displacement

**立柱為T型結構**  
The column is a T-type structure  
**剛性更強 (獨特)**  
More rigid (unique)

**整體機座加寬加強 (強悍)**  
Strengthen the overall base broadening (strong welding)

**The unique mechanical structure**

精心設計的機械結構高剛性、長期穩定性  
1、主要機械結構體完全採用高級米漢納鑄造而成，經壓力消除，再配合合理化的肋骨強化設計，無機體變形之虞。

2、立柱底部加寬設計，配合箱型結構，於高速切削時展現最佳穩定性。

3、三軸配置精密綫性滑軌，進給速度快，動作穩定

4、綫軌跨距寬闊，提升機械穩定性

Careful design of the mechanical structure of high rigidity, long term stability  
1. The main mechanical structure completely Meehanite casting made by pressure Elimination, coupled with rationalization of rib reinforced design, no deformation of the body of risk.  
2. The bottom of the column widening design, with box-type structure, at the time of high-speed cutting exhibition Now the best stability.  
3. Triaxial configuration precision linear rails, feed speed, stable operation

4. Line rail span wide, enhance the mechanical stability



Miling

攻Attack

雕Craving

銑Driling

**站攻雕銑 无所不能**  
Roughnecks engraving and milling omnipotent

**品質與精度 The quality and the precision**

**確保精度 (人工鏟花)**  
To ensure the accuracy of (Artificial scraping)



**滑軌與螺桿 (同心與平行度)**  
Slides and screw (concentric and parallel)



**滑軌與螺桿 (真直度與平面度)**  
Slides and screw (straightness and flatness)



**徹底表露高速加工的不凡風範**  
Complete disclosure of high speed machining extraordinary style



# 高性能控制系統

High Performance Control System



FANUC系統 FANUC system

## 速度控制性的移送前進控制機能標準配置

Speed controlled transfer forward control function standard configuration

## 機械上的跟隨誤差在設定點輸出前進性補償後，提升輪廓的精準度。

After the mechanical following error is compensated at the set point, the precision of the contour is improved.

## 強大的數控機床控制平臺

Powerful CNC machine control platform

簡單的互動編程方式  
Simple interactive programming

編程時不需要其他文檔  
No additional documentation is required for programming

豐富的循環  
Rich cycle

加工前仿真，確保高可靠性，高效率的刀具管理  
Pre-machining simulation ensures high reliability and high efficiency tool management

## 檢驗和優化機床精度

Check and optimize machine tool accuracy

五軸加工  
Five-axis machining

刀尖導向，控制擺動銑頭和回轉工作臺  
Tip guide, controls swing milling head and rotary table

高速、高可靠性和高精度加工輪廓  
High speed, high reliability and high precision machining profile

動態高精  
Dynamic and high precision

優化刀具運動軌迹  
Optimize tool trajectory

加工和測量3D輪廓  
Process and measure 3D profiles

## 刀具測量

Tool measuring

在機床上直接測量刀具長度、半徑及磨損量  
The tool length, radius and wear are measured directly on the machine



# 人機工程學的完美體現

The perfect embodiment of ergonomics





# 立卧复合加工机

Vertical and horizontal composite processing machine

## 高精密加工 精益求精

High precision machining keeps improving

航空航天、汽车、医疗、能源、交通建设、农业、模具、3C产业

Aerospace, automotive, medical, energy, transportation construction, agriculture, mold, 3C industry



X轴 Axis: 1100(mm)  
 Y轴 Axis: Z2卧头Lying head 450(mm)  
           Z1立头Set head 600(mm)  
 Z轴 Axis: Z2卧头Lying head 600(mm)  
 工作台 Workbench 500 / 630(mm)

## 严格检验 性能保证

Strictly check the performance guarantee

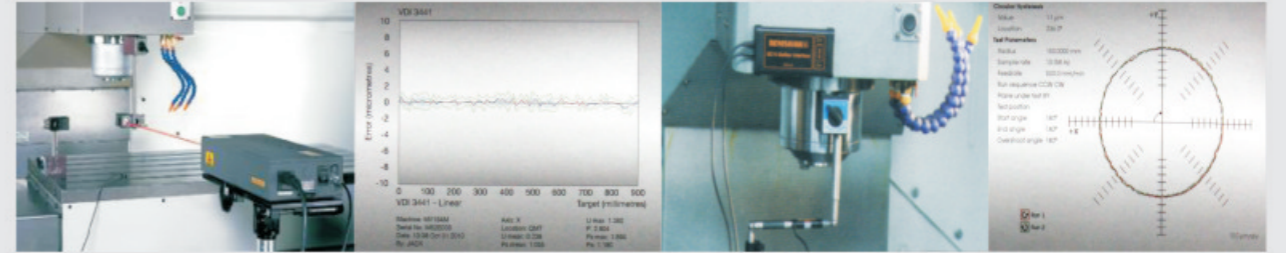
激光干涉检验  
Laser inspection

定位精度=1.180 μm VDI3441  
Positioning accuracy=1.180 μm VDI3441

循圆检测

Based on circle detection  
精密循圆检测实测值  
0.005mm Φ150mm  
follows the circle examination precisely  
actual value 0.005mm Φ150mm

循圆量测进给:  
500mm/min, Value: 1.1 μm  
Roundness measurement Feed:  
500mm/min, Value: 1.1 μm



## 严格把关每个细节

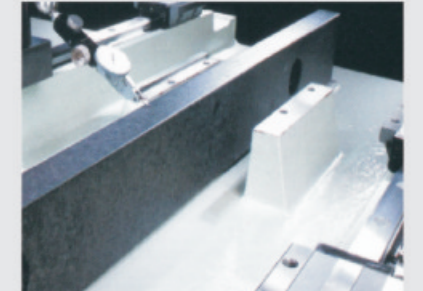
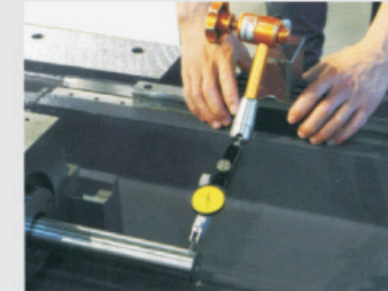
Keep a close eye on every detail

### 品质与精度 The quality and the precision

确保精度 (人工铲花)  
To ensure the accuracy of (Artificial scraping)

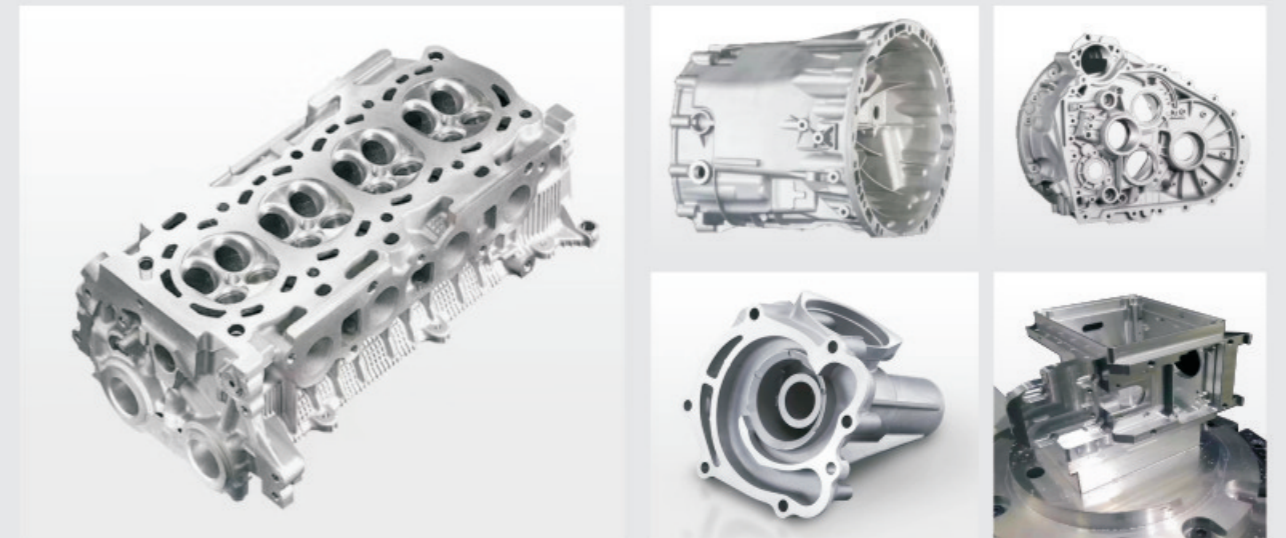
滑轨与螺杆 (同心与平行度)  
Slides and screw (concentric and parallel)

滑轨与螺杆 (真直度与平面度)  
Slides and screw (straightness and flatness)



## 追求效率及加工品质是致胜的关键

The pursuit of efficiency and the processing quality is the key to success





## 精密零件、模具、3C零件加工致勝利器

Precision parts, mould parts processing, 3C edge tool

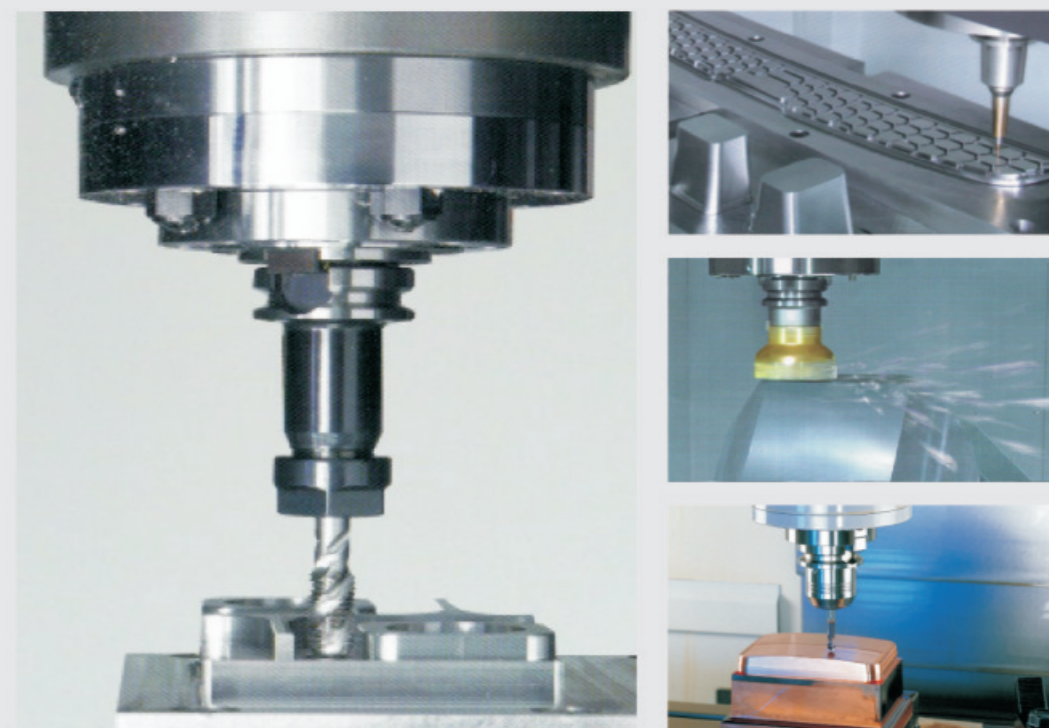


曲面光滑、接刀微小、實現五軸聯動  
Smooth surface, small knife, realize five-axis linkage

高端行業加工：曲面、曲綫、萬向加工  
High-end industry processing: surface, curve, universal processing

## 高精、高速、高效的完美體現

The perfect embodiment of high precision, high speed, high efficiency



## 追求效率及加工品質是致勝的關鍵

The pursuit of efficiency and the processing quality is the key to success



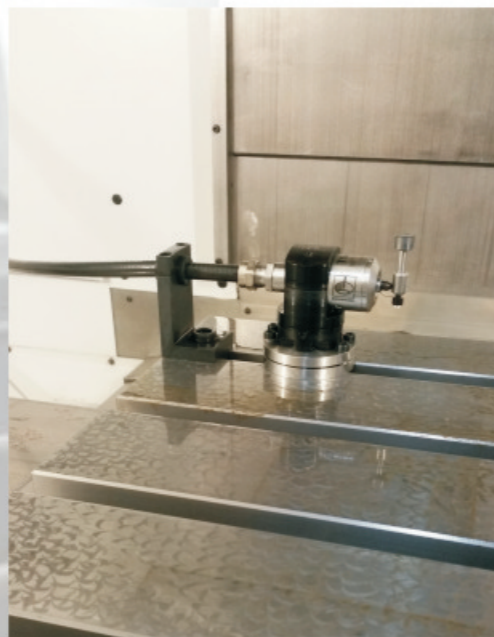




## 頂級的裝備

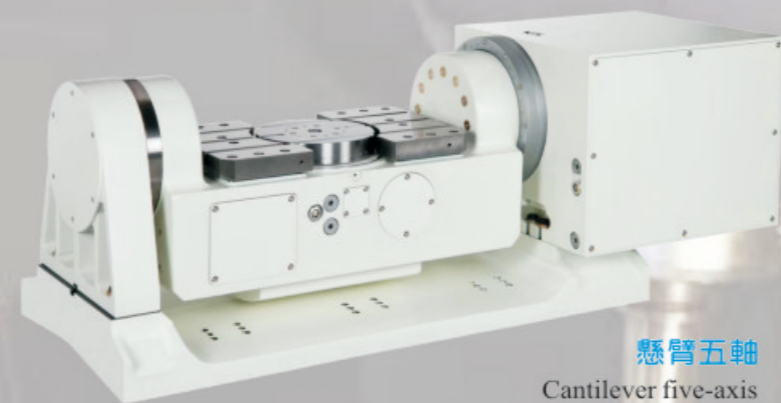
The top of the equipment

**刀具檢測 (選配)**  
 對加工時刀具損耗的檢測  
 (確保工件精度)  
 The tool detection (optional)  
 The detection of tool wear during machining  
 (to ensure the accuracy of the workpiece)

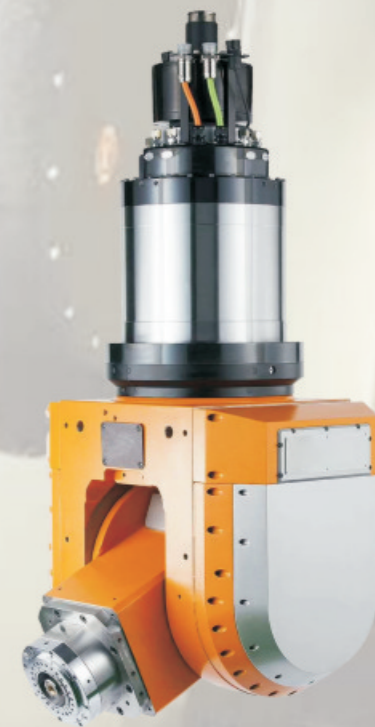


## 成套技術方案

Complete technical scheme



懸臂五軸  
 Cantilever five-axis



旋轉主軸頭  
 Rotating spindle head

**BT40/24T刀臂式刀庫 (選配)**  
 快速換刀時間為0.85秒  
 BT40/24T knife (optional)  
 Rapid tool change time of 0.85 seconds



**ATC自動門 (選配)**  
 刀庫及刀具在加工時產生水霧、油霧、  
 碎屑的防護  
 ATC automatic doors (optional)  
 Protection of water mist, oil mist, the knife and tool  
 fragments produced in the process.



## 自動化解決方案

Automation solution



桁架式機械手  
 Truss manipulator



地軌式機械手  
 Earth-rail manipulator



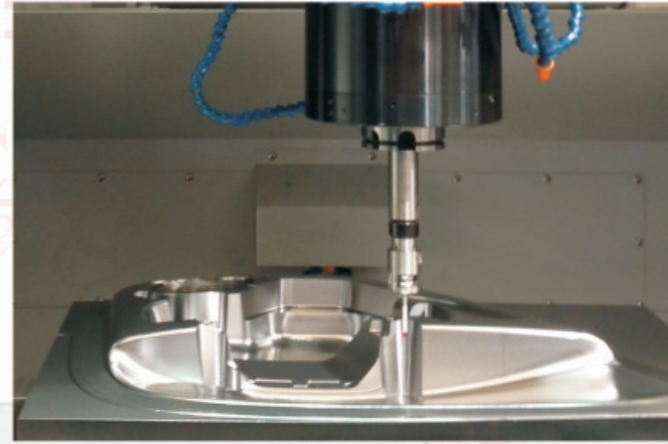
自動化機械手  
 Automatic manipulator



# 高性能的選配件

## Parts selected high performance

FANUC控制系統  
The FANUC control system



工件在綫檢測裝置  
檢測裝夾及工件精度  
The online detection device  
The detection and accuracy of the workpiece clamping



機器人  
實現機械加工自動化  
the robot  
To realize automatic machining

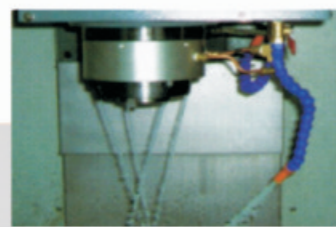
油霧收集器  
對加工時產生的水霧、油霧有效的收集、確保加工時監視畫面  
Oil mist collector  
The processing of water mist, oil mist effective collection, To ensure that the processing of the monitor screen



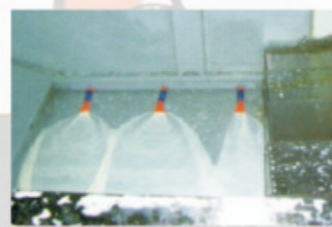
可調角度刀頭  
適用於側位加工的選擇  
Adjustable cutter head  
Suitable for lateral processing options



中心出水  
需要深孔加工時有利排屑  
Center of water  
Need for deep hole processing good chip removal



環狀出水  
曲面加工時，有利排屑  
Cyclic water  
During the machining of curved surface, good chip removal



後衝屑及左右衝屑裝置  
在加工時對碎屑的有效清理  
after the chip and flushing device  
In the processing of debris effectively.

# GY 系列立加參數表

## GY series vertical addition parameter table

規格/機型 Specification/Model	單位 Unit	GY-600	GY-800	GY-1000	GY-1100	GY-1200	GY-1300	GY-1380	GY-1500
加工範圍 Processing range	X 軸行程 X-axis stroke	mm	650	800	1000	1100	1200	1300	1500
	Y 軸行程 Y-axis stroke	mm	500	500	600	600	700	700	800
	Z 軸行程 Z-axis travel	mm	500	500	600	600	600	700	700
	主軸鼻端至工作臺面距離 Distance from the nose of main shaft to work surface	mm	120-620	150-650	120-720	120-720	80-680	120-820	185-885
工作臺規格 Table specification	主軸中心至立柱軌道面距離 Distance from spindle center to column track surface	mm	550	550	650	650	785	750	865
	工作臺尺寸 (X軸方向) Table size (X-axis direction)	mm	800	1000	1200	1200	1360	1400	1600
	工作臺尺寸 (Y軸方向) Table size (Y-axis direction)	mm	500	500	600	600	700	700	800
	工作臺 T 型槽尺寸 Table T-slot dimensions	mm	18*5*90	18*5*90	18*5*100	18*5*100	18*5*122	18*5*110	18*7*110
主軸規格 Main specifications	工作臺最大承重 Maximum load bearing of table	kg	400	500	800	800	1000	1200	1500
	主軸轉速 Spindle speed	rpm	10000	10000	10000	10000	10000	10000	6000/8000
	主軸電機功率 Spindle motor power	kw	11	11	11	11	11	11	15
	主軸規格 Main specifications	/	BT40/BBT40	BT40/BBT40	BT40/BBT40	BT40/BBT40	BT40/BBT40	BT40/BT50	BT40/BT50
進給 Feed	傳動方式 The transmission way	/	皮帶式/直線式 belt type/Direct type	皮帶式/直線式 belt type/Direct type	皮帶式/直線式 belt type/Direct type	皮帶式/直線式 belt type/Direct type	皮帶式/直線式 belt type/Direct type	皮帶式/直線式 belt type/Direct type	皮帶式/直線式 belt type/Direct type
	X、Y、Z 軸快速進給 X, Y, Z axis fast feed	m/min	48/48/48	48/48/48	36/36/36	36/36/36	24/24/24	30/30/30	30/30/30
	切削進給 A cutting feed	mm/min	1-10000	1-10000	1-10000	1-10000	1-10000	1-10000	1-10000
	X、Y、Z 軸電機規格 X, Y, Z axis motor specifications	kw	2*2*3	2*2*3	3*3*3	3*3*3	3*3*3	4.5*4.5*4.5	3*3*4.5
刀庫 Knife library	刀庫容量 Knife storage capacity	T	BT40/24T	BT40/24T	BT40/24T	BT40/24T	BT40/24T	BT40/BT50-24T	BT40/BT50-24T
	機床尺寸 Machine size	mm	2200*2100*2400	2550*2100*2400	3000*2300*2600	3100*2300*2600	3600*3000*2700	3400*2700*2800	3500*2800*3800
機床重量 Machine weight	kg	4500	5500	7500	7800	8500	9800	13000	15000

# CF 系列立加參數表

## CF series vertical addition parameter table

規格/機型 Specification/Model	單位 Unit	C-6	C-8	C-855	C-10	C-11	C-165	C-13	
加工範圍 Processing range	X 軸行程 X-axis stroke	mm	650	800	820	1000	1100	1100	1300
	Y 軸行程 Y-axis stroke	mm	450	520	550	580	620	650	700
	Z 軸行程 Z-axis travel	mm	450	560	600	700	600	700	700
	主軸鼻端至工作臺面距離 Distance from the nose of main shaft to work surface	mm	150-600	160-720	120-720	110-810	120-720	50-750	120-720
工作臺規格 Table specification	工作臺尺寸 (X軸方向) Table size (X-axis direction)	mm	760	920	1000	1160	1240	1250	1350
	工作臺尺寸 (Y軸方向) Table size (Y-axis direction)	mm	450	500	500	580	610	600	700
	工作臺 T 型槽尺寸 Table T-slot dimensions	mm	18*100*4	18*110*5	5*18*100	18*110*5	18*100*6	5*18*115	18*100*6
	工作臺最大承重 Maximum load bearing of table	kg	500	600	500	700	800	850	10000
主軸規格 Main specifications	主軸轉速 Spindle speed	rpm	10000	10000	10000	10000	10000	10000	10000
	主軸電機功率 Spindle motor power	kw	11	11	11	11	11	11	11
	主軸規格 Main specifications	/	BT40/BBT40	BT40/BBT40	BT40/BBT40	BT40/BBT40	BT40/BBT40	BT40/BBT40	BT40/BBT40
	傳動方式 The transmission way	/	皮帶式/直線式 belt type/Direct type	皮帶式/直線式 belt type/Direct type	皮帶式/直線式 belt type/Direct type	皮帶式/直線式 belt type/Direct type	皮帶式/直線式 belt type/Direct type	皮帶式/直線式 belt type/Direct type	皮帶式/直線式 belt type/Direct type
進給 Feed	X、Y、Z 軸快速進給 X, Y, Z axis fast feed	m/min	48/48/48	48/48/48	48/48/48	36/36/36	36/36/36	36/36/36	36/36/36
	切削進給 A cutting feed	mm/min	1-12	1-12	1-12	1-12	1-12	1-12	1-12
	X、Y、Z 軸電機規格 X, Y, Z axis motor specifications	kw	2*2*2	2*2*3	2*2*3	2*2*3	3*3*3	3*3*3	3*3*4.5
精度 Precision	定位精度 Positioning accuracy	mm	± 0.005	± 0.005	± 0.005	± 0.005	± 0.005	± 0.005	± 0.005
	重複精度 Repeat accuracy	mm	± 0.003	± 0.003	± 0.003	± 0.003	± 0.003	± 0.003	± 0.003
需求 Demand	電力需求 Demand for electricity	mm	15	20	20	25	30	35	35
	壓力需求 Pressure requirements	kg/cm	6-8	6-8	6-8	6-8	6-8	6-8	6-8
機床尺寸 Machine size	mm	2200*2500*2300	2400*2170*2500	2700*2300*2640	2600*2200*2600	2900*2240*2700	3900*2400*3000	3000*2300*2800	
機床重量 Machine weight	kg	5000	6500	6800	7500	8500	9000	13000	

### 標準配件 Standard accessories

FANUC 系統  
FANUC system  
BT40 皮帶式主軸  
Belt type spindle  
24T 刀臂式刀庫  
24T knife arm type knife library  
主軸油冷機  
Spindle oil cooler  
電箱恆溫裝置  
Electric box thermostat  
手持式手錶  
Hand wheel  
主軸環噴裝置  
Main shaft ring jet unit

### 選配置 Choose the configuration

三菱/西門子/海德漢系統  
Mitsubishi/Siemens/Heidham Systems  
BBT 40 (8000/10000/12000/15000rpm) 主軸  
BBT 40 (8000/10000/12000/15000 / RPM) axis  
HSK A63 (15000/18000/24000rpm) 主軸  
HSK A63 spindle (15000/18000/24000 RPM)  
四軸、五軸  
Four axes, five axes  
三軸光柵尺  
Three-axis grating ruler  
自動排屑機  
Automatic chip eliminator  
油霧收集器  
Oil mist collector

油水分離器  
Oil-water separator  
自動角度頭  
Automatic angle head  
自動化機器人  
Automatic robot  
自動化桁架  
Automatic truss  
電源穩壓器  
Power regulator  
電子對刀儀  
Electronic knife matching instrument  
永磁磁盤  
Permanent magnet disk

真空吸盤  
Vacuum suction cups  
產品定位夾具  
Product positioning fixture  
在綫測量  
The online measurement  
主軸防撞裝置  
Main shaft anti-collision device  
裝夾方案  
The clamping schemes