

EX SERIES



308/310

CNC Lathe *SERIES*

High-performance machine

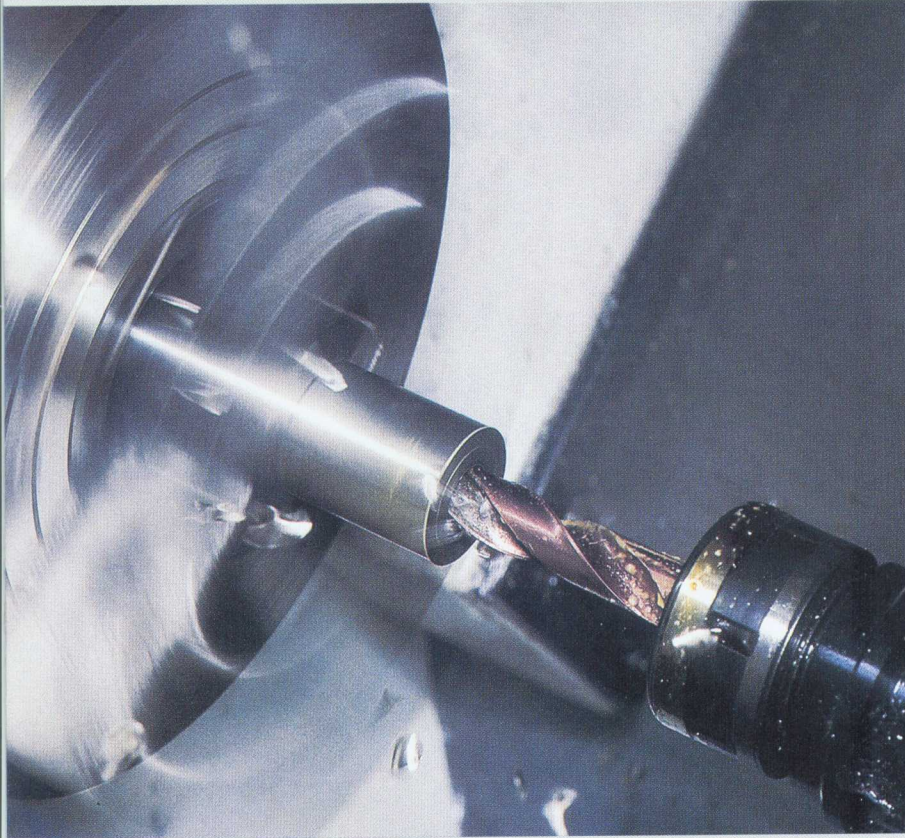
TO DEVELOPMENT OF WORLDWIDE

TAIWAN TAKISAWA

EX -308/310 series

21世紀劃時代產品

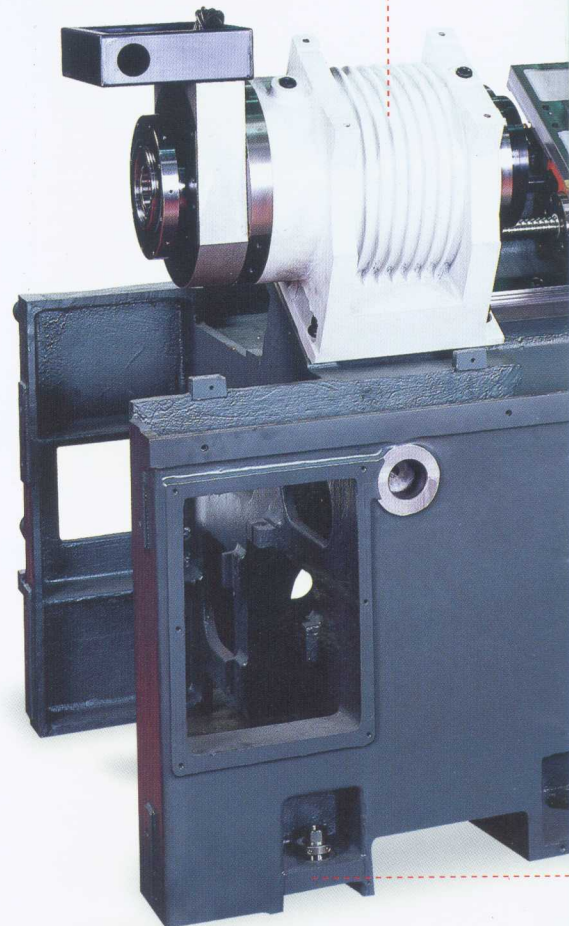
21st Century



主軸台

Built-in power motor and accurate spindle

- 獨立隱藏式主軸，並具冷卻控制系統
- 精度高，使加工物更完美
- Cs軸角度分度精度達0.001度
- Built-in and direct-drive spindle motor for powerful cutting.
- Hide-in coolant in spindle for stability.
- Indexing can be 0.001 degree for accurate.



CNC電腦控制器

CNC controller, new, friendly, powerful

- 最新FANUC控制器。
- 先行制御功能。
- 機能擴張容易。
- 可移動之操作面盤，使用方便。
- Latest 21i user friendly CNC from FANUC.
- Absolute encoders and precision servo drivers eliminate operator misuse caused by incorrect zero position.
- Option upgrades easily available.
- Simple user friendly operator panel can be adjusted for ease of use.

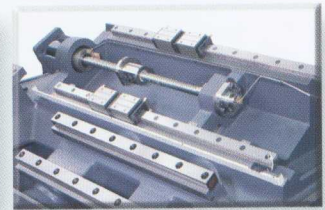
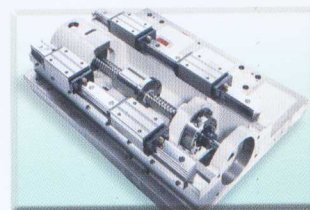


Using The Latest Technology

● 動力刀塔

Powerful, accurate fast turret

- 高剛性式可重力切削刀塔。
- 換刀具數增大加工範圍。
- 換刀以伺服傳動系統達到快速定位及準確。
- Powerful turret.
- Servo controlled high speed indexing reduces idle time and increases productivity.
- Any station can set driving tool on 12 station for flexible using.



● 線性滑軌

Rigid, durable linear guides

- 高剛性，新型之線性滑軌，延長使用壽命。
- 行程快速，提升以往CNC車床之加工速度。
- 精度高，使加工物更完美。
- Latest generation super rigid guides give longer sustained accuracy and greater metal removal.
- Fast rapid traverse reduces non cutting time, increases productivity.
- Single source machine design ensures better complex shape definition.

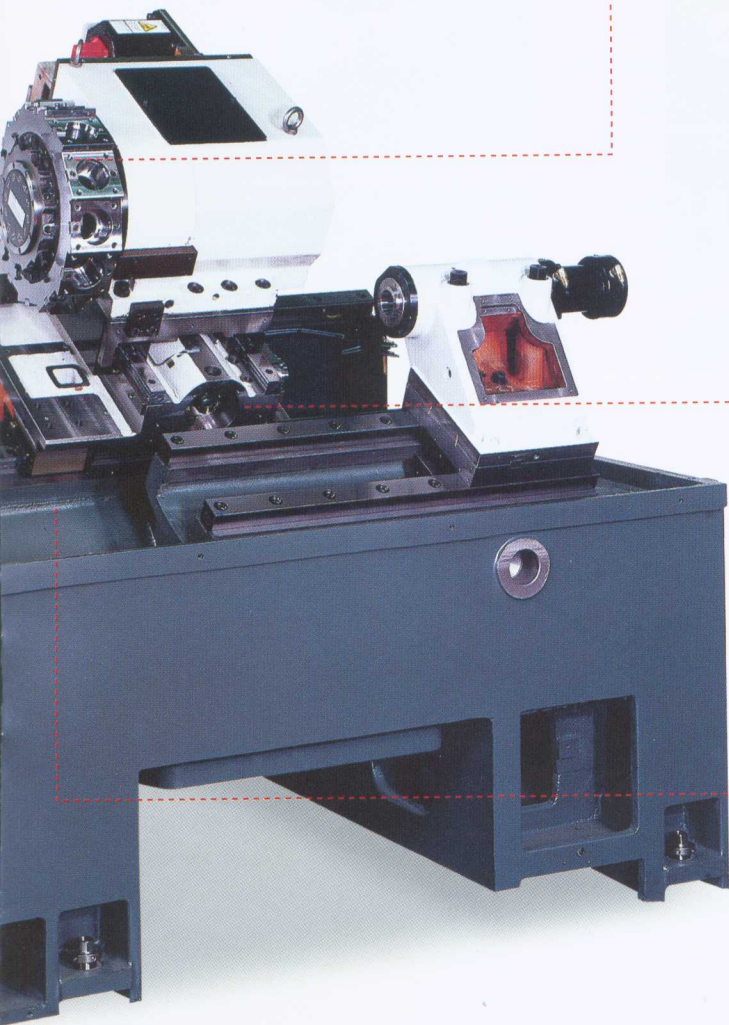
● 床身

Bed

- 30度傾斜結構的床身，不僅易於切削處理且操作接近性良好，工作、刀具的拆卸簡單方便。
- 30 degree slant bed design means easy chip flow and full heavy duty cutting.

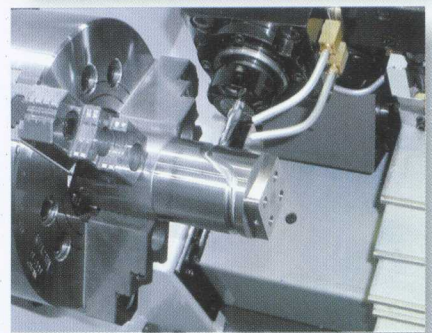
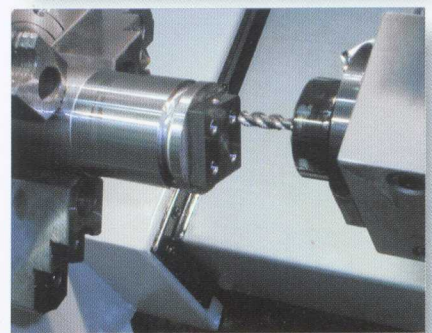
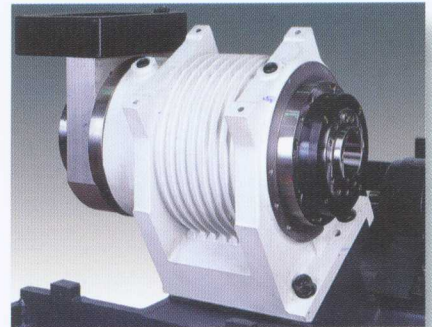
● 一體成形的剛性結構

One piece bed casting.



HIGH PERFORMANCE

- 提供世界最尖端CNC及伺服器技術
- 解決以往CNC無法做到之加工技術
- 杜絕因操作不當所造成機械之損壞
- Perfect, balanced integration of controller, servo's and mechanics.
- The best solution for small batch production of complex parts.
- Advanced safety features dramatically reduce down time due to operator errors.



▲Z軸動力刀座 Z-Axis Driven Tool Holder



▲X軸動力刀座 X-Axis Driven Tool Holder



油冷器 Oil Cooler ▲

FAUNC-21iT裝置機能表 SPECIFICATION

控制機能 CONTROL	同時控制軸數 Simultaneously contouring controlled: 4 axis	X, Z, 3, C
	最小移動量 Least input increment	0.001mm/0.0001inch
	最小移動單位 Least command increment	0.001mm/0.0001inch
進給機能 FEED	切削進給百分比 Feedrate override	0-254%
	暫停機能 Dwell	G04
	原點復歸 Original point return	G27.G28.G30
	手動進給 Manual per revolution feed	0-1260mm/mm
	手輪進給 Manual handle feed rate	0.001/0.01/0.1mm
	核對 Dry run	DRY RUN
	快速進給 Rapid traverse override	F0.25% 50% 100%
	每分鐘進給/每轉進給 Feed per minute/Feed per revolution	G98.G99
工具機能 TOOL FUNCTION	工具刀號及工具補正刀號指令 Tool number display: T8 digits	位碼指定
	刀尖R角半徑補正 Tool nose radius compensation	G40.G41.G42
	刀具補正數 Tool offset pairs: 16 pairs	16組
	刀尖形狀磨耗補正 Tool offset	形狀和磨耗分開補償
程式機能 PROGRAMMING FUNCTION	絕對座標及增量座標指令 Absolute/Incremental programming	X.Z/U.W
	複合形循環機能 Multiple repetitive cycle	G70~G76
	單一形循環機能 Canned cycles	G90~G94
	小數點輸入方式 Decimal point input	
	mm/inch輸入切換 Inch/Metric conversion	G20.G21
	圓弧切削 Chamferring/Corner R	G02.G03
	倒角與弧角機能 Circular interpolation by R programming	C.R
	副程式呼叫 Sub-program call	4重
	座標系設定 Coordinate system setting	G50
	自動座標系設定 Automatic coordinate system setting	G10
	幾何座標設定 Coordinate system shift	
	周速一定制卸 Constant surface speed control	G96.G97
	單節內多數M指令	3個
	極座標補間 Polar coordinate interpolation	G12.1G13.1
	圓筒座標補間 Cylindrical interpolation	G7.1
	穴孔複合形循環機能 Small-hole peck drilling cycle	G80~G89
剛性攻牙機能 Rigid tapping		
記憶體功能 PROGRAM FUNCTION	輸入碼 Input code: EIA/ISO automatic recognition	EIA/ISO自動判別
	資料傳輸界面 Input/Output interface	RS232C
	記憶容量 Part program storage length	160M
	登錄程式數目 Number of registerable programs	63個
	找尋功能 Searching function	程式號碼·序號碼
其他功能 OTHER FUNCTION	MID/CRT單元 MDI/CRT unit: 9.5 LCD mono	9.5LCD單色
	過行程檢查機能 Stored stroke check	各軸
	後部編輯 Background editing	
	求救機能 Help function	異常發生時說明
	自設巨集程式指令 Custom marco B	B型
	自行診斷機能 Self-diagnosis function	
	程式名稱 Program name	16個字
	故障記錄表 Alarm history display	
	時鐘機能 Clock function	
	軸移動中方向信號 Direction signal display	
異常負載檢出 Alarm display		
特殊功能 OPTIONAL ACCESSORIES	記憶容量追加 Part program storage length	320M
	登錄程式個數追加 Number of registerable programs	120個
	圖形顯示 Graphic function	只用於21iT
	刀具壽命管理 Tool life management	
	可變導程機能 Variable lead threading	G32

MODEL	UNIT	EX-308	EX-310	
加工能力 CAPACITY	床面旋徑 Swing over bed	mm	450(17.7")	495
	最大加工長度 Max. turning length (if W/8"chuck)	mm	530(20.9") 463(18.2")	710 (639)
	最大加工徑 Max. turning dia	mm	260(10.2")	350
	兩心間距離 Distance between center	mm	645(25.4")	845
	軸、孔徑 Bar capacity	mm	52(2.0")	75/77
主軸 SPINDLE	No. of spindle		1	1
	主軸最高轉速 Spindle speed	rpm	40-4000	35-3500
	主軸鼻端 Spindle nose		A2-6	A2-8
	主軸孔徑 Spindle thru-hole	mm	63	86
刃物台 TOOL POST	No. of tool post		1	1
	刀塔形式 Type of tool post		12 station	12 station
	X軸移動量 Stroke of X-axis	mm	180(7.1")	200
	Z軸移動量 Stroke of Z-axis	mm	530(20.9")	710
	X軸快速移動速度 Rapid travel X-axis	M/min	20	16
	Z軸快速移動速度 Rapid travel Z-axis	M/min	24	20
	X軸線速範圍 Jog feed rate X-axis	mm/min	0-1260	0-1260
	Z軸線速範圍 Jog feed rate Z-axis	mm/min	0-1260	0-1260
	外徑刀尺寸 Height of square tool	mm	25(1.0")	25
	內徑刀最大徑 Dia of boring bar holder	mm	40(1.6")	40
	換刀時間 Index time of tools	sec	0.45	0.45
動力刀塔 LIVE STOCK	No. of tools	Max. 12 tools	Max. 12 tools	
	回轉速度 Speed of turning	rpm	40-4000	40-4000
	工具最大徑 Max. of tool shank	mm	20(0.8")	20
尾座 TAILSTOCK	尾座移動量 Travel of tailstock	mm	435(17.1")	580
	尾座心軸直徑 Dia of tailstock hole	mm	90(3.5")	110
	尾座心軸斜度 Taper of tailstock		MT#5	MT#5
	尾座心軸行程 Travel of tailstock shaft	mm	100(0.4")	150
馬達 MOTOR	內藏式主軸(C軸)馬達 Built-in spindle(C-axis) motor	kw	18.5	22
	動力刀具馬達 Rotating tool spindle motor	kw	3.7	3.7
	X軸馬達 Servo motor X-axis	kw	0.6	1.4
	Z軸馬達 Servo motor Z-axis	kw	2.1	3.8
	油壓泵 Hydraulic pump	kw	1.5	1.5
	潤滑油泵 Lubrication pump	kw	0.004	0.004
	冷卻水泵 Coolant pump	w	400	400
其它 OTHERS	電源電力 Electric	KVA	25	32
	氣壓源壓力 Air pressure	Mpa	0.5	0.5
儲槽容量 TANK	油壓缸容量 Hydraulic	L	40	40
	潤滑油容量 Lubrication	L	2	2
	冷卻水容量 Coolant	L	200	230
	主軸油冷卻容量 Spindle coolant	L	100	100
機械尺寸 SIZE	機械高度 Height of machine	mm	1970(77.6")	2020
	主軸中心高度 Height of spindle's center	mm	1060(41.8")	1060
	機械長 Length of machine	mm	2360(93.0")	2890
	機械寬 Width of machine	mm	1745(68.7")	1855
	機械重量 Weight of machine	Kgf	4300	5600

機械標準附件 Standard Accessory

- 內藏式主軸(C軸)馬達
- X, Z, C軸伺服馬達
- 三爪油壓中空夾頭
- 搪孔刀套筒
ø6.8.10.12.16.20.25.32各1個
- 鑽頭套筒MT3.MT2.MT1各1個
- U鑽頭套筒ø20.25.32各1個
- 400W切削油幫浦
- 外徑刀具座1個
- 丸型刀具座2個
- 角型刀具座1個
- U型刀具座2個
- 照明裝置
- 工具箱
- 操作說明書
- 工作終了指示燈
- 程式控制油壓尾座
- Built-in spindle motor
- X & Z & C axis servo motor
- 3-jaw thru-hole chuck
- Boring bar bush(Ø6, 8, 10, 12, 16, 20, 25, 32)1pcs each
- Drill bush(MT1, MT2, MT3)1pc each
- U-drill bush(Ø20, 25, 32)1pc each
- 400W coolant pump
- OD tool holder: 1pcs
- Boring bar tool holder: 2pcs
- ID tool holder: 1pc
- U-drill tool holder: 2pc
- Work lamp
- Tool box
- Operation manual and parts list
- Cycle finish light
- Programmable hydraulic tailstock quill

機械特殊附件 Optional Accessory

- 鐵屑輸送機
- 工件捕捉器
- 刀具測定器
- 自動送料機界面
- 自動送料機
- 自動安全門控制系統
- 機械手臂界面
- X, Z軸動力刀座
- X, Z軸動力刀座套筒Ø2~Ø20
- 吹氣機能
- Chip conveyor
- Parts catcher
- Tool setter
- Bar-Feeder interface
- Bar-Feeder
- Automatic front door
- Robot interface
- Driving tool holder of X & Z axis
- Bush for driven tool Ø2~Ø20
- Air blow

* 本公司如改進上項所記之規格，不另行通知 / We reserve the right to change description in this brochure without notice

TO DEVELOPMENT OF WORLDWIDE

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