JOEN LIH

準力精密NC成型平面磨床

High Precision NC

Surface Grinding Machine

JL-2550NC

POWERFUL FUNCTIONS MAXIMUM OPERATIONAL CONVENIENCE

The Y and Z axes are available to equip with linear scales (optional equipment) that greatly upgrade positioning accuracy, machining accuracy and efficiency.

Wheel dressing parameters are controlled by programs. It provides a selection of automatic and semi-automatic operation modes, combined with automatic compensation functions, allowing the grinding wheel to be kept at an optimal condition at all times.

功能齊全，操作簡易

本機之Y、Z軸可加裝光學尺回饋（選購配備）。大幅提昇定位精度，加工精度及效率。

修砂輪條件採可程式參數調整控制，可選擇自動／半自動模式，並具自動補償功能，使砂輪保持在最佳研削狀態。

FEATURES:

Joen Lih Hi-Precision NC surface grinders are designed to meet current and future grinding requirements.

The machines are engineered and manufactured to the highest industry standards - starting from the raw castings right through to quality testing. This ensures optimal surface grinding accuracy and finish. Our goal is to exceed customers' expectations for quality and investment.

優異特性：

準力精密NC平面磨床之設計，乃是在因應現在及未來對於精密研磨之需求。機械生產過程中從機件鑄件至機械成品檢驗等，都依據最高的品質標準徹底管制，以確保最佳的研磨精度。而優異的機器品質及投資報酬，將超乎您的期盼。

準力精密NC成型平面磨床
High Precision NC Surface Grinding Machine

SUPERIOR MACHINING EFFICIENCY

Joen Lih surface grinders employ precision ball screws and linear guide ways on the Y axis. AC servomotors directly drive the ball screws, combined with a sensitive servo system featuring high frequency response, making this machine ideal for continuous machining. This upgrades machine efficiency to a maximum.

卓越特出的加工效率

準力平面磨床採用精密滾珠螺桿傳動，Y軸附線性滑軌。AC伺服馬達直接驅動滾珠螺桿，靈敏的伺服系統具高頻反應特性，使本機最適合連續加工，並且徹底展現機器的高效率。

JL-2550NC

PRECISE, RIGID STRUCTURE

The major parts of Joen Lih surface grinders are manufactured from high quality cast iron (FC30), tempered and effloresced to fully relieve internal stress of cast iron while ensuring lifetime accuracy.

Rigid structure and rib reinforcement are designed according to dynamic principles, providing the best possible dynamic rigidity and vibration dampening capabilities. Symmetrical structural design in the right and left features regular variation of thermal deformation.

For optimal structural design, advanced software is used to accurately analyze structural stress, deformation and vibration conditions.

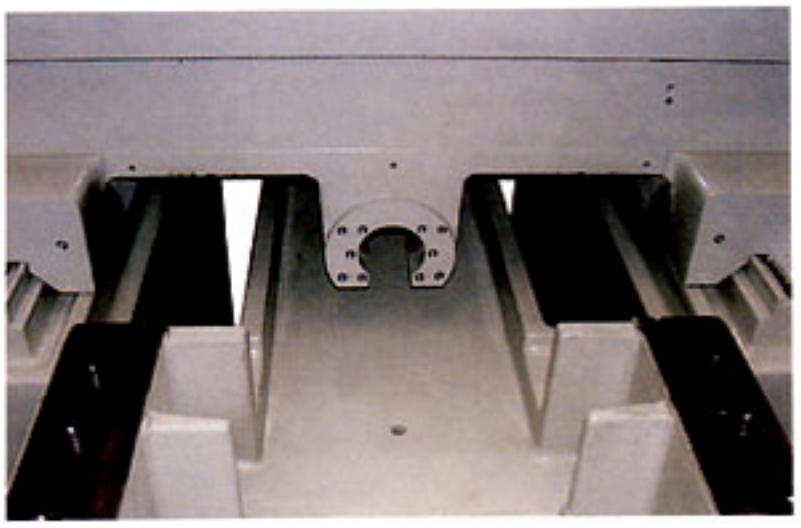
精密、高剛性機體結構

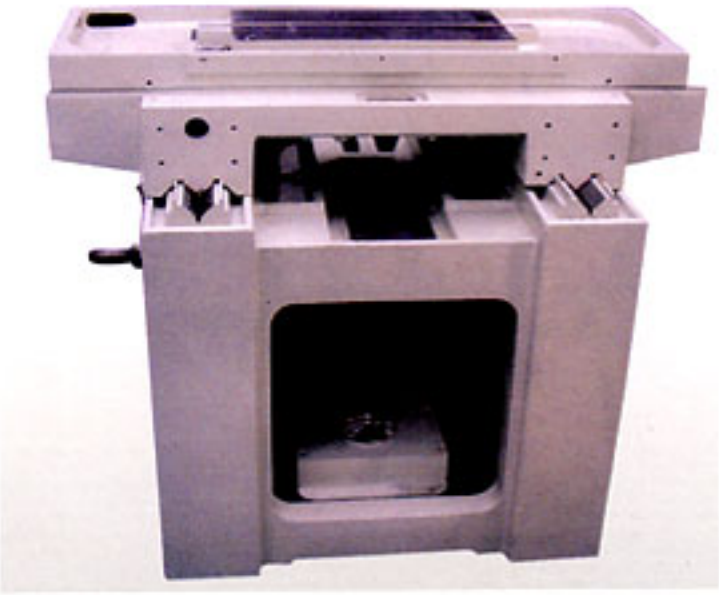
準力平面磨床之機體結構完全採用高級鑄鐵(FC-30)鑄造。並經回火處理，及自然風化，以徹底消除鑄件之內部應力，永久確保機械之加工精度。

機械結構剛性及鑄件肋骨強化，完全依力學原理設計，展現最佳的動態剛性與吸振能力。結構體左右對稱，使熱變形呈現規律性的變化。

本公司採用先進的電腦軟體，精密分析機械結構之應力，變形與振動情況，以達到最佳化的結構設計。

MACHINE CONSTRUCTION: 機械結構





One-Piece Fabricated Base

The massive base is one-piece constructed, providing a solid support for the saddle, table and column. This greatly upgrades stability and rigidity.

特殊一體成型設計的床台基座：

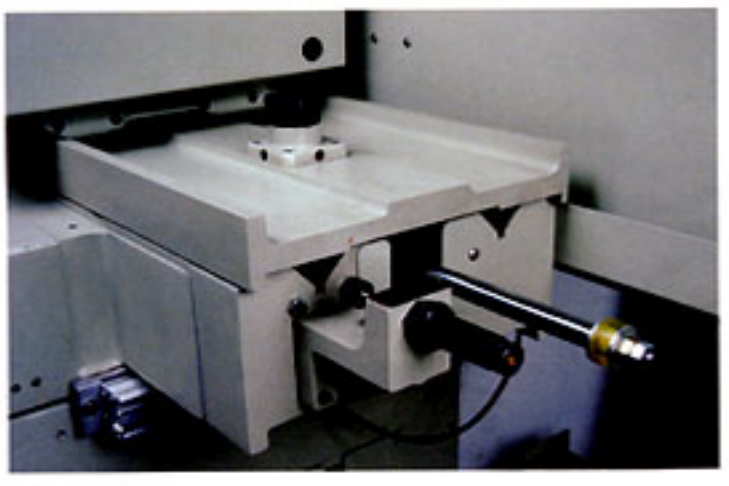
大而一體成型的底座足以支撐鞍座，工作台，立柱等重量，大幅增加機台的穩定性及剛性。

Longitudinal Mechanism

The table travels on double V guideways, is coated with low-friction Turcite-B anti-friction material and precision scraped for extremely smooth table movement.
The table longitudinal travel is driven by a hydraulic system, combined with flow control, provides variable speed change for the table.

左右工作台：

滑軌為雙V設計，滑軌面採用最先進，低摩擦，耐磨耗之Turcite-B(耐磨片)，並經精密刮花作業處理，使工作台運動輕快。
工作台左右移動採油壓系統驅動，配合流量控制，提供工作台的無段變速。

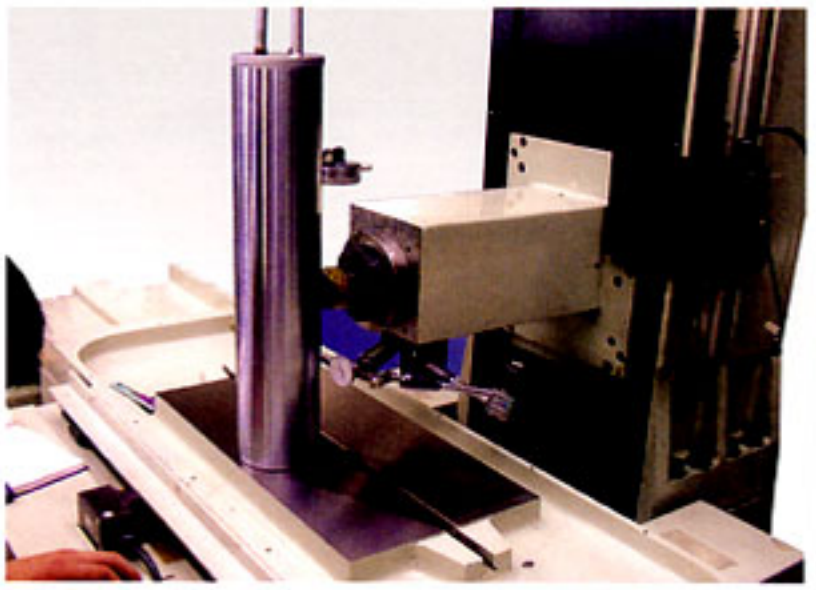


Longitudinal Mechanism

To reach the dressing position, a specially designed hydraulic buffer is used to ensure the positive stop of table at the exact position. The "Right End Stop" function allows for releasing the hydraulic cylinder. Extremely smooth movement of the table is achieved through manual operation.

右端停止功能：

具獨特設計的“右端停止”功能，
及油壓缸脫離。
手動操作時，工作台運作輕快。



Wheel Spindle

The high precision cartridge type spindle is supported by two precision angular contact ball bearings - at the front and rear ends. Bearings are preloaded and carefully assembled in a constant-temperature environment. Special grease for the NC machine spindle is employed without need of further lubrication and combined with non-contact labyrinth type seals, ensuring an excellent lubrication effect. Spacing collars are precision measured and preloaded before fitting. They are fixed at the front end and removable at the rear end. This allows thermal strain transfer to the rear end to minimize transmission error while assuring long service life and high accuracy.

砂輪主軸

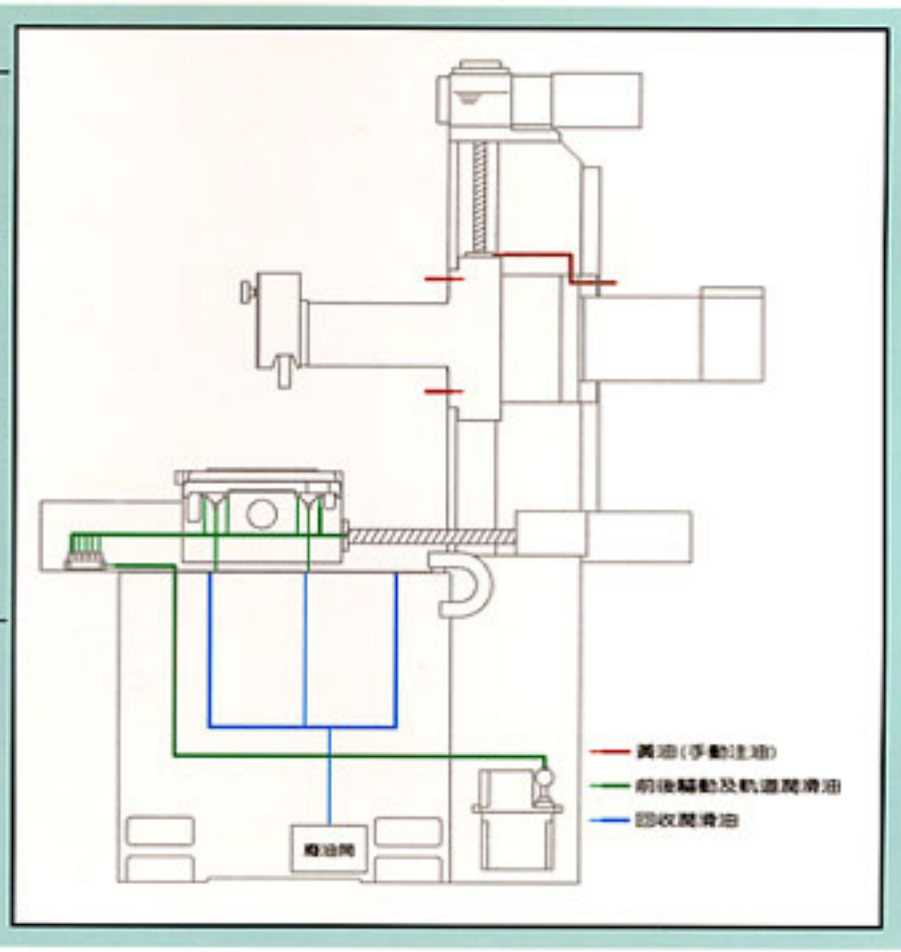
高精密砲筒式主軸，前後端各以2個超精密斜角滾珠軸承支撐。軸承預壓後在恒溫室裝配。主軸潤滑採用NC機器主軸專用高級油脂，不需再額外潤滑，就能永保最佳潤滑效果。間隔環經精密量測後，再現場預壓量，且前端為固定式，後端為活動式。因此可將主軸溫昇熱變形量傳導到後端，將機構傳動誤差降到最低程度，提昇主軸的使用壽命和精度。

Automatic Lubrication System

Each Joen Lih machine is equipped with an automatic lubrication system as standard equipment. The lubrication system employs a magnetic pump. Oil shot is automatically controlled to meet the travel distance set through PLC. Oil is delivered to all slideways, table, saddle, gears and screws for reducing friction, extending parts service life and ensuring machining accuracy. (In case of no oil, the lubricator will sound an alarm.)

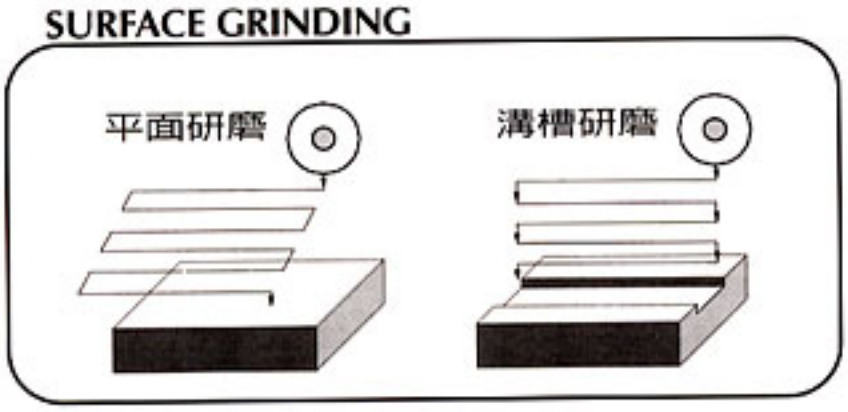
自動潤滑系統

所有準力高精密磨床均標準配備自動潤滑系統，採用電磁泵浦，並由PLC程式自動控制依據其設定移動距離油柱，潤滑所有的滑道，工作台，鞍坐，即齒輪，螺桿，減少磨損，可耐久使用，以確保機器之精度。
(潤滑器無油時會發出警報)

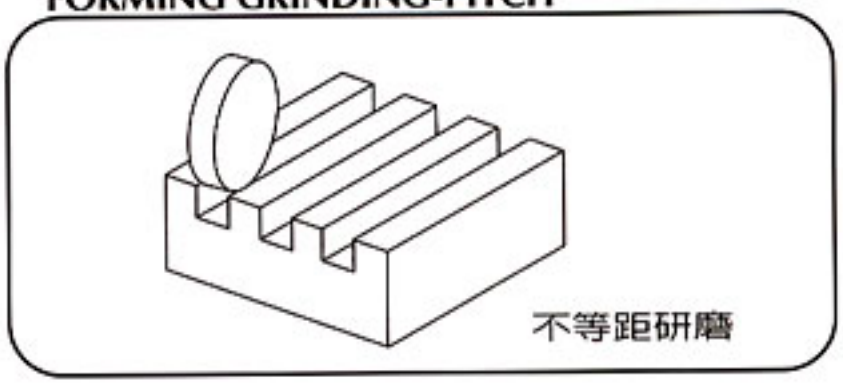


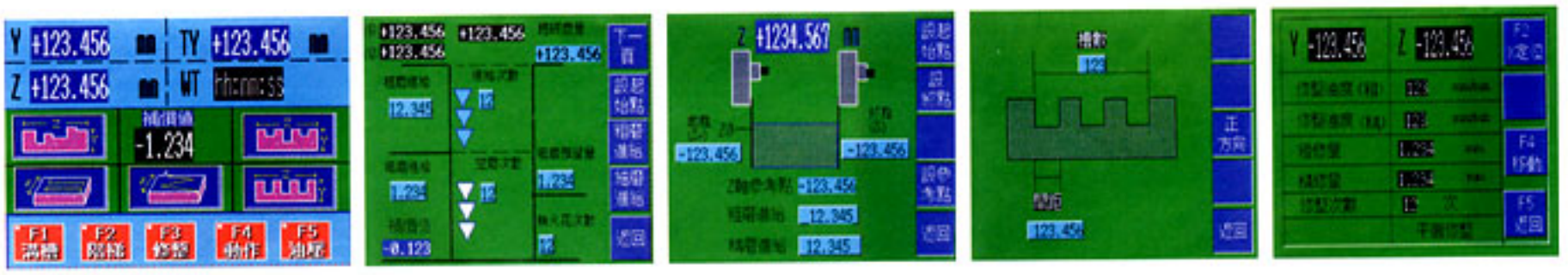
GRINDING FUNCTIONS: 研磨功能

SURFACE GRINDING



FORMING GRINDING-PITCH





Operator-Friendly Control

The NC control features conversational control for maximum operational convenience. Powerful computer functions mean that this machine is ideal for various grinding operations. Outstanding features included are:

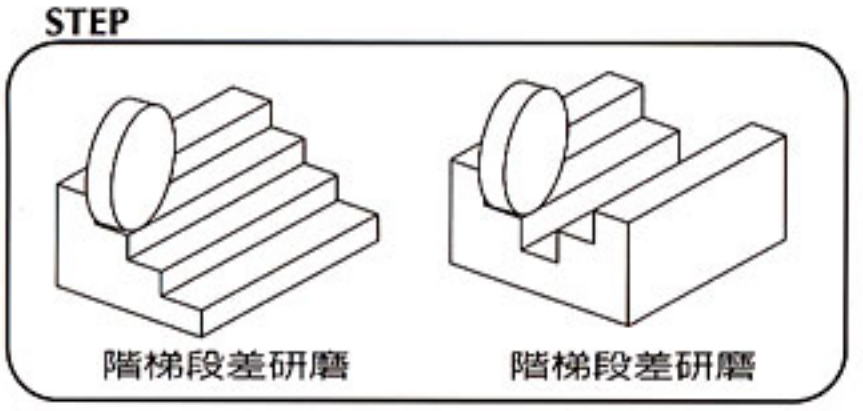
- Cross and vertical traverses are driven by servomotor for high positioning accuracy.
- Longitudinal traverse is driven by hydraulic system with extremely smooth movement control.
- Conversational control screen for maximum operational convenience.
- Automatic surface grinding, "Z" type grinding and slice grinding.
- Allows for changing grinding conditions and setting parameters during automatic operation.
- Program dwell and restart functions.
- Simple semi-automatic wheel dressing.
- Wheel bottom, bevel and curve dressing.
- Allows for automatic wheel dressing during grinding operations.
- Available to equip with linear scale for feedback to controller for increased positioning accuracy.
- MPG handwheel.

操控簡易的控制器

本機配備NC控制器，採用對話式控制，操控極簡易。電腦控制器功能強，使本機適合各種研磨作業。電腦控制器特性包括：

- 前後/上下軸伺服馬達驅動，可做精密尺寸定位。
- 左右採用穩定油壓作往復運動。
- 人機對話畫面，操作簡單。
- 自動，平面研磨，Z字研磨，溝槽研磨。
- 自動研磨過程中，可任意修改研磨條件與設定變數。
- 程式中暫停再啓動功能。
- 簡易半自動砂輪修整。
- 砂輪底部、斜面、圓弧修整。
- 研磨過程中可作自動砂輪修整。
- 搭配光學尺顯示器回饋控制器作精密尺寸定位。
- 電子手搖輪。

STEP



STANDARD ACCESSORIES

- Grinding Wheel
- Wheel Flange
- Flange Extractor
- Wheel Balancing Arbor
- Leveling Screws
- Leveling Pads
- Tool Box and Tools
- Working Lamp

標準附件

- 砂 輪
- 法 蘭
- 法蘭拆具
- 平衡棒
- 水平調整螺絲
- 腳 墊
- 工具箱及工具
- 工具燈

OPTIONAL ACCESSORIES

- J101 Electromagnetic Chuck
- J102 Inclinable Electromagnetic Chuck
- J103 Table Mounted Dresser
- J104 Angle Dressing Attachment
- J107 Coolant System
- J112 Precision Vise
- J117 Coolant System with Magnetic Separator
- J118 Coolant System with Paper Filter
- J119 Coolant System with Paper Strip Filter and Magnetic Separator
- J120 Linear Scales (D.R.O)
- J121 Hydraulic Oil Cooler (As showed picture)

特殊附件

- J101電磁盤
- J102電可傾磁盤
- J103砂輪修整器
- J104角度修整器
- J107冷卻裝置
- J112精密虎鉗
- J117單用電磁過濾水機
- J118紙帶過濾水機
- J119磁性加紙帶過濾水機
- J120光學尺
- J121油壓油溫冷凍機(如圖示)

Specifications: 規 格

DESCRIPTION 項 目			MODEL 機型 / JL-2550NC
Grinding Capacity 加工能力	Max.Grinding Length	最大研磨長度	500mm (12")
	Max.Grinding Width	最大研磨寬度	250mm (10")
	Table Working Surface	工作台面積(寬x長)	250 x 500mm (10"x20")
	Max. Distance from Table Surface to Spindle Centerline	工作台面至主軸中心最大距離	470mm (18.8")
Longitudinal Movement 左右進給	Max. Table Travel	工作台最大行程	550mm (22")
	Table Speed Infinitely Variable	工作台速度	0-25m/min
	T-slot Size x Number	T型溝槽尺寸及數量	14mm x 1 (0.56"x1)
Cross Movement 前後進給	Max.Crossfeed Movement	前後最大行程	290mm (11.6")
	Crossfeed Rapid Feedrate Approx	快速進給	300mm/min (120"/min)
	Least Input Increment	最小設定單位刻度	0.001mm (0.0004")
	Cross Feed on Hand Wheel	手輪進刀量	0.1-1-10mm (0.004"-0.04"0.4")
			0.001-0.01-0.1mm (0.00004"-0.0004"-0.004")
Wheelhead Vertical Infeed 上下進給	Rapid Vertical Rate	快速進給	500mm/min (20"/min)
	Least Input Increment	最小設定單位刻度	0.001mm
	Auto Infeed	手輪進刀量	0.001-0.01-0.1mm (0.00004"-0.0004"-0.004")
Grinding Wheel 砂 輪	Wheel Speed	主軸轉速	3600 R.P.M.
	Grinding Wheel Size	砂輪尺寸	255 x 19 x 50.8 or 180 x 13 x 31.75
Drive Motors 馬 達	Spindle Motor	主軸馬達	5HP (3.75KW)
	Auto. Gross Feed Motor	左右、前後伺服馬達	1HP (0.75KW)
	Rapid Head Elevation Motor	升降伺服馬達附煞車裝置	1HP (0.75KW)
	Hydraulic Motor	油壓馬達	3HP (2.25KW)
Weight 重 量	Machine Net Weight	機器重量	1800 kgs
	Packing Gross Weight	裝箱毛重	2000 kgs
Size 尺 寸	Machine Floor Space (L x W x H)	機械操作空間	2350 x 1800 x 2100mm
	Packing Dimensions (L x W x H)	包裝尺寸	2400 x 2280 x 2200mm

NOTE: Machine specifications and design characteristics are subject to change without prior. The specifications shown in the catalog are for reference only.
註：本公司隨時進行研究改善工作，因此保有隨時更改設計規格之權利，恕不另行通知。本目錄之規格僅供參考。

JOEN LIH

準力機械股份有限公司

JOEN LIH MACHINERY CO., LTD.

台中縣潭子鄉大豐路一段240之1號

NO. 240-1, TAFENG RD., SEC.1, TANTZU HSIANG,
TAICHUNG, TAIWAN.

TEL: +886-4-2534-9475 / 2535-2788

FAX: +886-4-2533-9001

http://www.joenlih.com.tw

E-mail: joenlih@ms14.hinet.net

TÜV CERT DIN EN ISO 9001 Certificate:01 100 99239

CE

JL-2550NC-01