Master in technology Pursuing extreme perfection
CNC AUTO TOOL CHANGER SYSTEMS
With over 28 years experience, we are considered Masters in designing and processing Automatic Tools for machinery.

Chen Sound Industrial Co., Ltd became the first manufacturer to integrate the design and manufacturing of Auto Tool Changer systems.

We have an established and experienced R&D team which is dedicated to the design of Automatic Tool Changer (ATC) systems and have a complete machining center and other relative machining accessories.

In our 28 year history, we have created partnerships with our customers through a results oriented approach of sincerith, professional service and state of the art technology.

We provide flexible customization to supply our customer's with their requirements.

We have received patents on many of our products and were also ISO 9002 certified in 2003.

We insist on a philosophy of “Honesty”, “Professionalism” and “Responsibility” to provide the customer with best possible service.

Main Products

- Disc Type ATC
- Drum Type ATC
- Chain Type ATC
- Umbrella Type ATC
- Horizontal Type ATC
- Vertical Lathe type ATC / Turning Milling Type ATC
- Double Column / Flat type ATC
- Accessories (Unclamping, Hydraulic Unclamping, Hollow Hydraulic Unclamping Cylinder, Booster.....etc.)

Chen Industrial Co., Ltd is a professional company in the field of multi-functional automatic tool changer systems. It is one of the first companies in the world to integrate design and manufacturing of automatic tool changer systems. The company has established a R&D team that is fully dedicated to the design of automatic tool changer systems. Over the past 28 years, the company has maintained partnerships with its customers through a results-oriented approach, based on sincerity, professional service, and state-of-the-art technology. They provide flexible customization to meet customer requirements and have received patents on many of their products. They have also been ISO 9002 certified since 2003. The company insists on the philosophy of "Honesty", "Professionalism" and "Responsibility" to provide customers with the best possible service.

Some of their main products include disc type ATCs, drum type ATCs, chain type ATCs, umbrella type ATCs, horizontal type ATCs, vertical lathe type ATCs, turning milling type ATCs, double column or flat type ATCs, and accessories such as unclamping, hydraulic unclamping, hollow hydraulic unclamping cylinders, and boosters, etc.
增壓器 Booster

可取代小流量之油壓單元(如CNC主軸鬆刀機構、各種夾具類、剎車定位系統)提供各種不同規格需求。
It can replace the smaller flow hydraulic unit (e.g., CNC spindle-unclamping jig fixture, brake positioning system) for providing different specifications.

W-1000
規格說明 Specification:
增壓倍數 Output pressure: 10kg/cm² ~ 250kg/cm²
輸出油壓 Oil output: 5cm² (5cc) ~ 1000cm² (1000cc) / mm
空氣壓力要求 Air pressure requirement: 5~6kg/cm²

油壓打刀缸 Hydraulic Unclamping Cylinder

材質採用密度性鑄鋼及無縫鋼管，強度足、不漏油，打刀碰塊採可調鬆螺栓設計，適用性高，油壓式打刀缸可配合增壓器使用，即使在空壓系統中亦可使用。
It is made of high density cast iron and seamless steel pipe in providing stronger strength and keeping form leaking.
The unclamping hammering block is designed in adjustable screw for higher flexibility.
The hydraulic unclamping cylinder can be matched with the booster. Pneumatic source is even applicable.

H-1000
Model NO.
Ø 120*20L
規格說明 Specification:
打刀力 Booster force: 5000kg~6600kg
打刀行程 Stroke: 20mm
油壓壓力範圍 Oil pressure requirement: 45~60kg/cm²
適用於 Apply: 50#

H-2000
Model NO.
Ø 90*16L
規格說明 Specification:
打刀力 Booster force: 2700kg~4200kg
打刀行程 Stroke: 16mm
油壓壓力範圍 Oil pressure requirement: 45~60kg/cm²
適用於 Apply: 40#

中油壓打刀缸 Hollow Hydraulic Unclamping Cylinder

此打刀缸專為CTS(中央出水機構)設計，可配合增壓器使用，即使在空壓系統中亦可使用。
This cylinder is designed for CTS(coolant through spindle) system for using with the booster. Pneumatic source is even applicable.

PMC-1000
Model No
Ø 120*12L / Ø 120*14L
規格說明 Specification:
打刀力 Boost force: 2400kg~6400kg
打刀行程 Stroke: 12mm, 14mm
油壓壓力範圍 Oil pressure requirement: 30~80kg/cm²
適用於 Apply: 40#, 50#
打刀缸系列
CYLINDER SERIES

增壓打刀缸 Unclamping Cylinder

G-4000

- 品質穩定、技術純熟，佔台灣市場95%。
  With reliable quality and sophisticated design, it owns 95% of the market share in Taiwan.

規格說明 Specification:
增壓出力 Booster force: 2000kg~6000kg
行程 Stroke: 10~17mm
空氣壓力需求 Air pressure requirement: 5~6kg/cm²

G-5000

- 新型快速型退刀缸，以獨家專利預壓設計方式，大幅縮短換刀時間。

規格說明 Specification:
增壓出力 Booster force: 2000kg~6000kg
行程 Stroke: 10~17mm
空氣壓力需求 Air pressure requirement: 5~6kg/cm²

G-6000

- 使用曲軸式槓桿原理，出力大、速度快、免油壓、不漏油、使用壽命長、故障率低。
  Curve axle lever principle designed ensures stronger output, faster speed, hydraulic oil free and no leakage, which has longer life in running cycle and lower failure rate.

規格說明 Specification:
增壓出力 Booster force: 4000kg~6000kg
行程 Stroke: 12mm
空氣壓力需求 Air pressure requirement: 6kg/cm²
特點 Features:

1. 夾刀爪為工程複合塑膠, 夾刀力量穩定且封閉性佳, 不當換刀時可保護主軸與刀盤。
   Gripper is made from engineering compound material, with stable tool clamping force, good surrounding and can protect spindle and tool disc during tool changes under abnormal situation.

2. 配合客戶機台工藝空間, 刀庫可為固定式或往覆式。
   Can produce either by fixed style or stroke style to fit customer's machine size.

3. 刀盤驅動源為精密電動馬達, 鄰刀快速選刀 (0.6秒)。
   The tool disk drive power from precision electricity motor, rapid adjacent tool change time (0.6 second).

4. 刀盤運轉採用弧形凸輪設計, 運轉順暢、安靜、定位準確。
   The tool disc with index cam design providing smooth movement, quiet and precise fixed position.

5. 刀庫驅動源可搭配伺服馬達及電動馬達。
   The ATC drive power has option of servo motor and electrical motor.
特點Features:

1. 刀庫刀套採複合工程塑膠，強度高，適用溫度-20°C~120°C，重量輕，抗老化、腐蝕，正常使用狀況下刀套損壞率接近0%。
   The tool pot material is made from compound engineering plastic material, with high strength, temperature allowance: -20 degree C ~ 120 degree C, light weight, anti-aging, anti-corrosion, under normal operation, the defective rate is nearly 0%.

2. 鏈條全面雙邊支承，運轉穩定性高，延長鍊條壽命。
   The chain has good support from two sides entirely, with stable rotation and longer chain life time.

3. 倒刀結構採曲線凸輪設計，倒刀動作順暢，無氣壓時可預防刀套下垂。
   With curve Cam design for the tool pot up down for smooth motion, to prevent tool pots from falling down even if air pressure fails.

4. 刀庫結構剛性佳，能承載快速換刀及較大刀重。
   The ATC structure is sturdy to load high speed tool changes and heavier tools.

5. 鏈條運轉採同形凸輪設計，運轉順暢、安靜、定位精準。
   The chain rotation with index cam design providing smooth movement, quiet and precise fixed position.

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40#
刀具數 Tool Nos: 32/40/50/60T
刀具形式 Tool type : BT/CAT/ISO/HSK/SK series
換刀時間 Adjacent tool change time: 0.9sec
最大刀重 Max. Tool weight: 8kg
最大刀長 Max. Tool length: 350mm

50#
刀具數 Tool Nos: 24/32/40/52/60T
刀具形式 Tool type : BT/CAT/ISO/HSK/SK series
換刀時間 Tool Change Time: 1sec
最大刀重 Max. Tool weight: 15kg/25kg
最大刀長 Max. Tool length: 400mm
特點 Features:

1. 夾刀爪為工程複合塑膠，夾刀力量穩定包覆性佳，不當換刀時可保護主軸與刀盤。
   Gripper is made from engineering compound material, with stable tool clamping force, good surrounding and can protect spindle and tool disc during tool changes under abnormal situation.

2. 鏈條轉接軸承全面雙邊軌道包覆支承，運轉穩定順暢，定位精度高。
   The chain has good support from two sides entirely, with stable rotation and longer chain life time.

3. 特殊夾刀爪的設計可將刀庫使用於臥式換刀。
   With special design of the gripper can change the magazine for horizontal magazine.

4. 氣壓取刀系統，油壓迴轉系統或市售換刀凸輪皆可配合刀庫使用。
   The atc unit is suitable for air pressure, hydraulic circuit sytem or cam system.

5. 刀庫驅動源可搭配伺服馬達及電動馬達。
   The ATC drive power has option of servo motor and electrical motor.

40#
刀具數 Tool Nos.: 32/40/48T
刀具形式 Tool type: BT/CAT/ISO/HSK/SK series
鄰刀時間 Adjacent tool change time: 0.9sec
最大刀重 Max. Tool weight: 7kg
最大刀長 Max. Tool length: 350mm

50#
刀具數 Tool Nos.: 32/40T
刀具形式 Tool type: BT/CAT/ISO/HSK/SK series
鄰刀時間 Adjacent tool change time: 1sec
最大刀重 Max. Tool weight: 15kg
最大刀長 Max. Tool length: 400mm
凸輪式換刀結構 Cam ATC System

Brake motor driven cam.
Simple in construction, presenting mature and reliable products.

30#
- 刀具數: Tool Nos.: 16T~24T(20T)
- 刀具形式: Tool type: BT/CAT/ISO/HSK/SK series
- 換刀時間: Tool Chenge Time: 0.8sec
- 最大刀重: Max. Tool weight: 5kg
- 最大刀長: Max. Tool length: 300mm

40#
- 刀具數: Tool Nos.: 16T~40T(24T)
- 刀具形式: Tool type: BT/CAT/ISO/HSK/SK series
- 換刀時間: Tool Chenge Time: 1.0~1.8sec
- 最大刀重: Max. Tool weight: 8kg
- 最大刀長: Max. Tool length: 350mm

50#
- 刀具數: Tool Nos.: 20T~30T(24T)
- 刀具形式: Tool type: BT/CAT/ISO/HSK/SK series
- 換刀時間: Tool Chenge Time: 2.5~3.2sec
- 最大刀重: Max. Tool weight: 16kg
- 最大刀長: Max. Tool length: 400mm
特點 Features:

1. 刀套採用複合工程塑膠，強度高，適用溫度-20°C~120°C，重量輕，抗老化、腐蝕，正常使用情況下刀套損壞率接近0%。
   The tool pot material is made from compound engineering plastic material, with high strength, temperature allowance: -20 degree C ~ 120 degree C, light weight, anti-aging, anti-corrosion, under normal operation, the defective rate is is nearly 0%.

2. 刀套滑道採用專利設計，刀盤旋轉時低噪音、低震動。
   The tool pot slide with patented design, low noise and vibration at the time of tool disc rotation.

3. 倒刀結構採曲線凸輪設計，倒刀動作順暢，無氣壓時可預防刀套下垂。
   With curve Cam design for the tool pot up down towards smooth motion, to prevent tool pots from falling down even if air pressure fails.

4. 刀庫結構剛性佳，能承載快速換刀及較大刀重。
   The ATC structure is sturdy to load high speed tool changes and heavier tools.

5. 刀盤運轉皆採簡形滾子設計，運轉順暢，安靜，定位精準。
   The tool disc with index cam design, with smooth movement, quiet and precise fixed position.

- 刀套採用高科技之（尼龍加纖）工程複合材料製造
  Tool holder is made of high tech engineering plastic (nylon+fiber glass)

- 曲線凸輪式倒刀結構
  Cam swing mechanism

- 防水防塵刀臂
  Arm with water-proof & anti-dust

- 刀套滑道注油槽
  Tool potslide-oil pouring hole
**Drum Type ATC**

**30#**
- 刀具數 Tool Nos. : 8T~30T（10T）
- 刀具形式 Tool type : BT/CAT/ISO/HSK/SK series
- 鄰刀時間 Adjacent tool change time : 0.7sec
- 換刀時間 Tool change time : 1.2~2sec
- 最大刀重 Max. Tool weight : 5kg
- 最大刀長 Max. Tool length : 300mm

**40#**
- 刀具數 Tool Nos. : 8T~30T（16T/20T）
- 刀具形式 Tool type : BT/CAT/ISO/HSK/SK series
- 鄰刀時間 Adjacent tool change time : 0.75sec
- 換刀時間 Tool change time : 1.2~2sec
- 最大刀重 Max. Tool weight : 7kg
- 最大刀長 Max. Tool length : 350mm

**50#**
- 刀具數 Tool Nos. : 16T~24T（20T）
- 刀具形式 Tool type : BT/CAT/ISO/HSK/SK series
- 鄰刀時間 Adjacent tool change time : 1sec
- 換刀時間 Tool change time : 1.2~2sec
- 最大刀重 Max. Tool weight : 15kg
- 最大刀長 Max. Tool length : 400mm

**Features:**

1. 夾刀爪為工程複合塑膠, 夾刀力量穩定包覆性佳, 不當換刀時可保護主軸與刀盤。
   - Gripper is made from engineering compound material, with stable tool clamping force, good surrounding and can protect spindle and tool disc during tool changes under abnormal situation.

2. 夾刀爪種類齊全且互換性高, 提供客戶多種選擇。
   - A wide variety choice of tool grippers and also interchangeable to provide customers with more options.

3. 内藏式雙向液壓緩衝專利設計, 換刀往復行程單程(0.8秒)。
   - Built in with patented design of dual direction of hydraulic cushion, magazine in-out single stroke is 0.8 second

4. 鈑盤驅動源精密電動馬達, 錶刀快速選刀(0.6秒)。
   - The tool disc drive power from precision electricity motor, rapid adjacent tool change time (0.6 second)

5. 鈑盤選轉有兩型凸輪及日內瓦輪式兩款設計, 運轉順暢、安靜、定位精準。
   - The tool disc have index cam and geneva cam design, with smooth movement, quiet and precise fixed position.
臥式刀庫
HORIZONTAL TYPE ATC

特點Features:

1. 鈞重刀強化傳動結構,軌道承載及刀套承載。
   Enhance the transmission structure, relevant slides support and tool pots clamping for heavy tool.

2. 針對重刀、快速換刀及較長換刀臂皆有設計自動鎖刀機構，增加換刀時的穩定度。
   With automatic tool arm locking mechanism for heavy tools, rapid change tools and longer change arms to improve the steady while change tools.

3. 刀套直接流轉90度的新型設計,可搭配各種不同ATC系統,使換刀介面更簡略。
   With special design of tool pot 90 degree down, can match with different atc system, simplify the interface adapting parts.

4. 利用自行研發的設計專利鎖刀機構，將立式刀庫改為簡易型臥式刀庫降低成本。
   With patented design of locking tools arm mechanism, changing the vertical ATC to be simple horizontal ATC to lower the cost.

5. 刀庫驅動源可搭配伺服馬達及電動馬達。
   The ATC drive power has option of servo motor and electrical motor.

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E-mail: info@chensound.com.tw  http://www.chensound.com
特點Features:

1. TE 30#刀庫於配置規劃和裝配上簡易的特性。
   TE 30# ATC systems has the features simple design for drill tapping machine
   center.

2. 新一代同步換刀凸輪結構，配合電控程式設定，即可輕易的發揮快速且順暢換刀動作。
   The newly developed simultaneous tool change system of cam construction, by
   matching with PLC program, can easily change tools.

3. 刀庫本體及刀盤採用鋁合金輕量化設計，可以輕鬆轉換，重載完成高速換刀動作的要求。
   The magazine body and tool disc uses light weight material, reduces the loading
   of spindle motor and enhance tool change.

4. 齒輪箱式的傳動結構設計，搭配內藏於傳動箱的原點定位及數刀SENSOR設計，即使刀庫在高溼度、高粉塵的工作環境下，也能
   擁有穩定的性能及壽命。
   Gear box transmission structure design and sensor stabilize the action and product life on wet, chip and dust environment.

5. 刀庫傳動分度採用快速準確的筒型凸輪作傳動分度結構，搭配高功率變頻馬達配合變頻器使用，可以擁有更穩定及更佳的刀庫
   選刀速度，更進一步可以配合控制來設定刀庫重刀時的轉速以及一般換刀轉速。
   The high precise index cam transmission system, with high power motor and inverter ensures more stable and better tool selection
   speed from tool disc, PLC to set heavy weight tool rotation speed and normal tool weight rotation speed can be written.

6. 複合式材質的刀爪，可以確實並準確的夾持刀桿，且擁有易於調整及更換的特性。
   Compound materials of grippers, can precisely clamp the tool shank and to adjust or replace.

規格說明 Specification:

刀具容許數 Tools capacity: 14T
刀桿型式 Tool Shank: BT-30
最大刀重 (Kg) Max. tool weight/Pc (Kg): 3.5 Kg
最大刀長 Max. tool length (mm): 200 mm
最大刀徑 Max. tool dia. (Mm): 80 mm
平均負荷刀重 Average tool loading weight: 2 KG (變頻器最大/60Hz) (Inverter max Hz: 75Hz). 3 KG (變頻器最大/60Hz) (Inverter max Hz: 60 Hz)
刀盤周運轉時間 Rotation time of entire tool disc: 5.6 Sec. (變頻器/60Hz) (Inverter: 60 Hz)
相鄰刀盤轉時間 Rotation time for adjacent tools: 0.4 second. (變頻器/60Hz) (Inverter: 60 Hz)
選刀方式 Tool selection method 可正反轉選刀 (固定刀號) C.W or C.C.W rotation ( Fixed Tool Number)