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coinr

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電氣箱專用冷卻機

AIR CONDITIONER

— 使用說明書 —

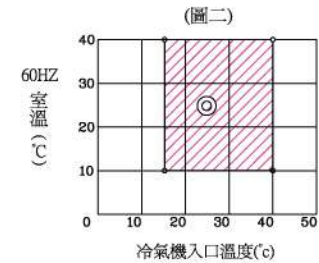
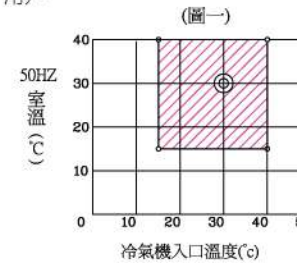
OPERATIONAL MANUAL



## 1.一般注意事項：

### 1.1.使用範圍

CA冷氣機為任何CNC工作母機或專用機等電氣控制箱冷卻而設計之冷卻裝置，為使CNC控制器能在恆溫下正常動作，故需注意其使用範圍(如圖，若超出範圍得停止使用)。



### 1.2.電壓及頻率容許值

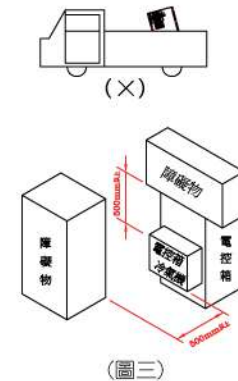
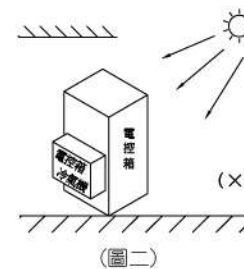
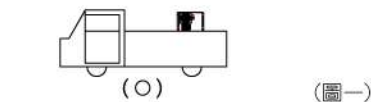
- ① 本機功能有電壓 $\pm 10\%$ 內故障保護，確保壓縮機馬達等電氣零件正常運轉。
- ② 頻率容許度 $\pm 1$ 以內。

## 2.安裝冷氣機注意要點：

2.1.貨運車搬運中，請勿傾倒或撞擊。(圖一)

2.2.請安裝於水平的位置，並避免陽光直接照射或有熱源的場所。(圖二)

2.3.冷氣機請安裝在通風良好及遠離灰塵的地方。(圖三)



\* 我司商標依美學，會有局部設變，敬請繼續支持愛用。

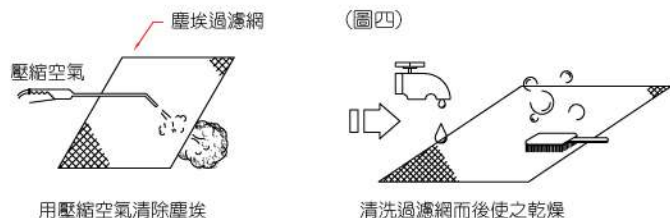


## 2.4.冷氣機表面清洗

請使用中性清洗劑或高品質肥皂清除冷氣機表面污垢，切勿使用酸類溶劑。

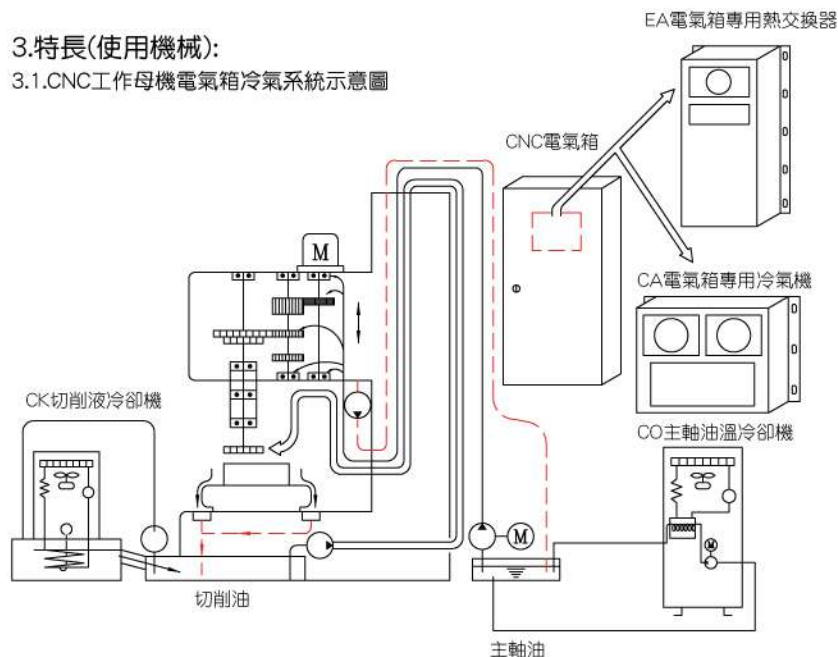
## 2.5.過濾網清洗

檢查冷凝器空氣過濾網是否有污塵，並定期一週清洗一次。(圖四)



## 3.特長(使用機械):

### 3.1.CNC工作母機電氣箱冷氣系統示意圖



## 4.操作前的檢查

檢查供電電源是否為本電控箱冷氣機之使用電壓。

若用戶主機裝有過電流保護器，請檢查其是否在ON的位置。

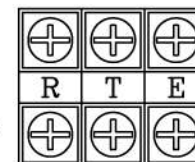
電源ON/OFF開關是否在OFF處。

檢查電氣控制箱是否密閉。

檢查冷氣機排水口水管是否接好。

5.運轉時，若需反覆操作ON-OFF開關，使電控箱冷氣機啟動停止，可能會使壓縮機產生過載易於損毀，故停機欲再度運轉時，須隔2~3分鐘方可再度啟動冷氣機。

## 6.電力接點及故障接點和遠控接點端子台說明：



①RT為冷氣機入力電源

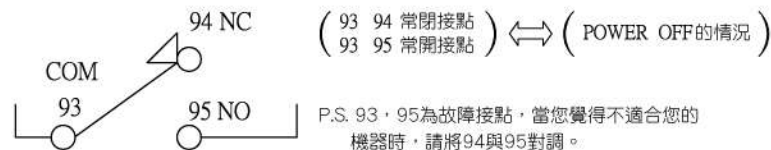
②E為黃綠色接地線(中性相)

6.1.本機具有故障輸出與遠端控制之功能，需要使用者可通知於出廠前先行接於端子台。

功能說明：

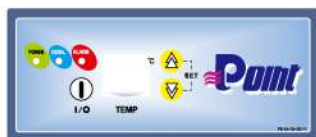
93、95，為一信號b接點，圖形如下：

此一組故障接點可與工作機械控制迴路連線，直接讀取冷卻機功能狀態。



224、225為遠控接點，可與CNC工作母機連線，作ON/OFF開關  
(PT-11，PT-13基板無此項功能)

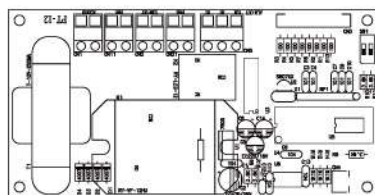
## 7.螢幕顯示型面板圖



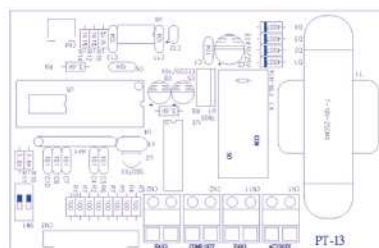
< PT-11 面板正面圖 >



< PT-11 面板背面圖 >



< PT-12 基板背面圖 >

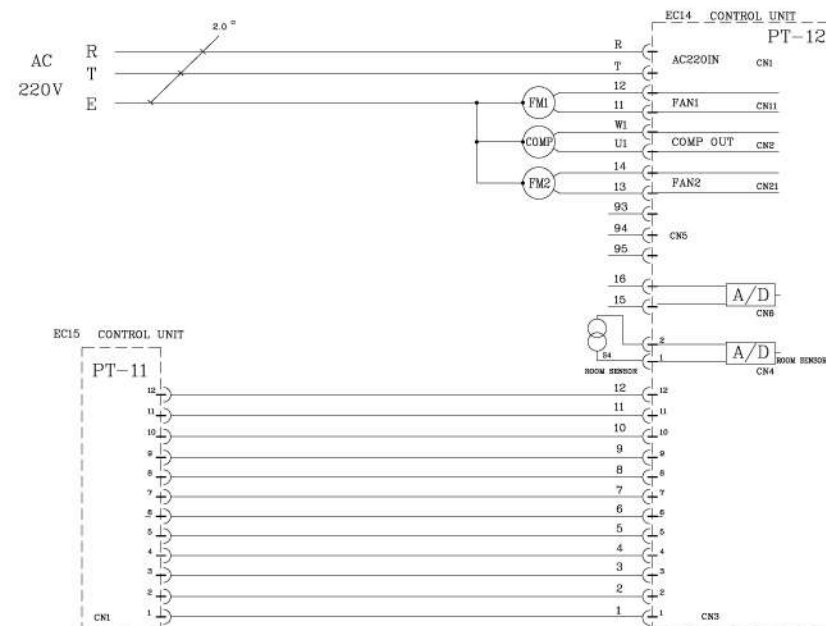


< PT-13 基板背面圖 >

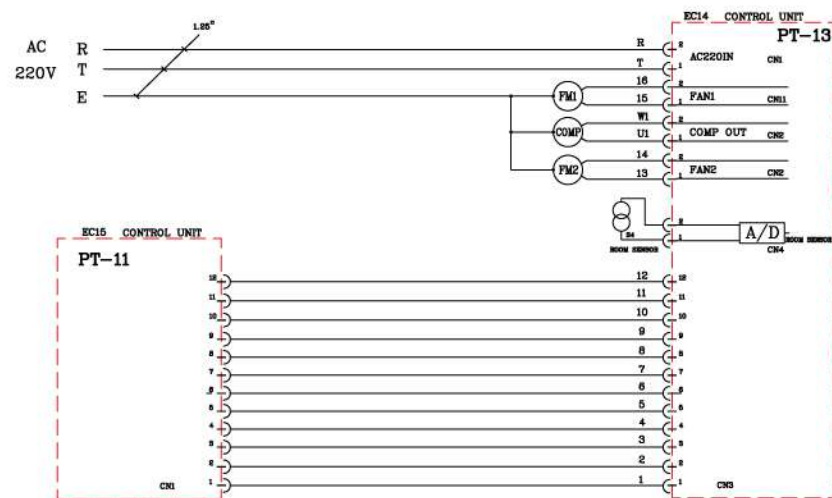
### 控制面板之功能名稱及操作

| NO. | 名 稱             | 圖形               | 操作方式及功能                                          |
|-----|-----------------|------------------|--------------------------------------------------|
| 1   | 設定鍵             | ON/OFF 開關        | 觸控式開關，冷卻機啟停開關                                    |
| 2   | SET TEMP 油溫設定開關 | SET TEMP 油溫設定開關  | 平常顯示電控箱內溫度，當按下溫度設定鍵時，螢幕會閃爍並顯示需求設定溫度，此時可利用設定鍵設定溫度 |
| 3   | 運轉指示燈           | POWER - 綠色 電源指示燈 | 總電源燈，顯示冷氣機已通電                                    |
| 4   | COOL - 綠色 冷卻指示燈 | COOL - 綠色 冷卻指示燈  | 顯示壓縮機正常運轉中                                       |
| 5   | ALARM 故障警示燈     | ALARM 故障警示燈      | 顯示冷氣機出現異常現象                                      |

## 8.(一)PT-11，PT-12面板配線方式及控制線路圖



## 8.(二)PT-11，PT-13面板配線方式及控制線路圖



## 9. PT-11，PT-12，PT-13基板操作說明

S4 DIP SW 指撥開關功能

1：OFF - 手動操作 / ON - 遙控操作

2：OFF - 正常動作模式 / ON - 功能設定

S4 DIP SW - 4：ON

功能設定：(利用ON/OFF鍵選擇設定項目，再用△▽鍵調整設定值)

\*設定項目由POWER，COOL，ALARM三個LED閃爍狀態表示\*

| POWER | COOL | ALARM |                                |
|-------|------|-------|--------------------------------|
| LED   | LED  | LED   |                                |
| ●     |      |       | :超溫警報設定。                       |
|       | ●    |       | :低溫保護，當箱內溫度低於此設定值，壓縮機停止動作。     |
| ●     | ●    |       | :定溫設定上限，用來限制冷氣機定溫操作模式，設定溫度最大值。 |
|       |      | ●     | :定溫設定下限，用來限制冷氣機定溫操作模式，設定溫度最小值。 |
| ●     |      | ●     | :壓縮機動作溫差(精度)。                  |
|       | ●    | ●     | :箱內溫度校正，當箱內溫度有誤差時，可用此功能校正。     |
| ●     | ●    | ●     | :室溫校正，當室溫有誤差時，可用此功能校正。         |
|       |      |       | :壓縮機啟動延遲時間設定，時間為"設定值"×10(單位:秒) |



## 10.故障與排除

(1)一般而言，電控箱冷氣機之設定溫度為25° C，當發現到壓縮機運轉不停，可能為下列情形：

| 故障原因                                                | 排除方法                                                                              |
|-----------------------------------------------------|-----------------------------------------------------------------------------------|
| 1.冷卻能力不足<br>2.冷媒不足<br>3.風扇不運轉<br>4.感溫棒損壞<br>5.冷凝器太髒 | 1.更換更大的電控箱冷氣機<br>2.通知本廠或專業技術人員檢修處理<br>3.更換新風扇<br>4.更換新的感溫棒<br>5.用壓縮空氣將油垢粉塵清理乾淨再開機 |

(2)當發現壓縮機持續無法運轉，且電控箱溫度一直上升，原因可能如下：

| 故障原因                               | 排除方法                         |
|------------------------------------|------------------------------|
| 1.壓縮機毀損<br>2.保險絲燒毀<br>3.ON/OFF開關毀損 | 1.更換壓縮機<br>2.更換保險絲<br>3.更換開關 |

(3)當發現使用PT-11面板時壓縮機持續無法運轉且電控箱溫度一直上升原因可能如下：

| 故障原因                    | 排除方法                    |
|-------------------------|-------------------------|
| 1.壓縮機毀損<br>2.ON/OFF開關毀損 | 1.更換壓縮機<br>2.更換ON/OFF開關 |

※備註：①未定期清洗過濾網而導致機械損壞為人為疏失，不在保固內。

②安裝請用M6x15mm螺絲。

## 威士頓主要產品系列

| 產品種類                | 使用場合                                                                                                                          | 特性                                                                                                                                                                                                                                                                                                                 |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CO<br>油溫<br>冷卻機     | <ul style="list-style-type: none"> <li>● CNC綜合切削中心機</li> <li>● 車床、磨床、拉床</li> <li>● 油壓機械、專用機械</li> <li>● CNC折床、高速沖床</li> </ul> | <ul style="list-style-type: none"> <li>● 防止CNC電腦機械主軸油溫的變化而影響精度。</li> <li>● 防油震、油質氧化，並能保持潤滑油黏度不變使主軸動作穩定。</li> <li>● 本機採用機體同步溫度控制器，讓油溫追隨室溫，防止機械結構熱脹冷縮。</li> <li>● 本機附有自動故障檢出功能，可透過電腦連線，並及時告知CNC電腦故障點，以免機件損壞。</li> </ul>                                                                                              |
| CW<br>水冷卻機          | <ul style="list-style-type: none"> <li>● 雷射切割機</li> <li>● 車床</li> <li>● 磨床</li> <li>● 塑膠射出成型機</li> </ul>                      | <ul style="list-style-type: none"> <li>● 採用頂端排熱冷凝器直接把熱排出。</li> <li>● 免裝冷卻水塔，安裝簡單，保養容易。</li> <li>● 採用歐美高效率板式熱交換器及殼管式熱交換器，對提高熱交換量、節省電力有很大的助益。</li> <li>● 用於線切割機上，使加工液溫穩定，切割機鋼線不易斷，加工速度增快。</li> <li>● 用於印刷機上，彩印過程中，色彩更趨固艷麗。</li> <li>● 操作容易，安全裝置完備，並且自動警報裝置，微電腦自動故障檢知及漏電斷路系統。</li> </ul>                              |
| CA<br>控制箱<br>溫度調節機  | <ul style="list-style-type: none"> <li>● NC、CNC電控箱</li> <li>● 電力、電機控制箱</li> <li>● 雷射加工機控制箱</li> <li>● 放電加工機控制箱</li> </ul>     | <ul style="list-style-type: none"> <li>● 防止電氣控制系統因內部電子元件所產生的熱源使電腦當機。</li> <li>● 防止塵埃、油霧、溼氣進入箱體內部。</li> <li>● 可調整溫度控制器於一定的溫度範圍內，控制熱源，提高電子元件壽命。</li> <li>● CA系列，可耐高溫，在周圍溫度高於38° C時仍可繼續運轉。</li> <li>● 使用密閉型設計，內外空氣不會產生對流可裝置於CNC電控箱的內壁、外壁、側壁使用。</li> <li>● 當電控箱內部熱源無法排出時，CA系列機型是您最佳的選擇<br/>※註：CA-12以上產品為訂製品</li> </ul> |
| CE<br>放電加工<br>專用冷卻機 | <ul style="list-style-type: none"> <li>● 放電加工機</li> </ul>                                                                     | <ul style="list-style-type: none"> <li>● 本機特殊設計的熱交換器，流量大，不會有銅屑的固體微粒及加工積碳殘存於熱交換器內可保持長久運轉，效率不變。</li> <li>● 防止放電油溫度升高，確保加工零件品質。</li> <li>● 可以減少放電油油氣揮發，抑制工作環境空氣惡化，維護工作人員身體健康。</li> <li>● 可以作大電流放電，減少工作時間。</li> <li>● 避免長時間加工時，因溫度升高造成碳渣增多而容易發生起火之危險。</li> </ul>                                                       |
| EA<br>控制箱<br>熱交換器   | <ul style="list-style-type: none"> <li>● NC、CNC電控箱</li> <li>● 電力、電機控制箱</li> <li>● 紡織工廠</li> <li>● 電子零件</li> </ul>             | <ul style="list-style-type: none"> <li>● 熱管式熱交換器是一種節約能量且效率高的傳熱導體。</li> <li>● 設計成簡化輕巧組合、安裝容易。</li> <li>● 高效率熱交換器採用密閉型設計，內外空氣不產生對流。</li> <li>● 熱交換器管內是以一種很穩定且吸熱潛能大、液態物質作媒介，安全性高，熱傳導效率約為銅的1600倍。</li> <li>● 熱交換可分成箱內型、箱外型二種。</li> </ul>                                                                               |
| AW<br>風散熱<br>式水冷卻機  | <ul style="list-style-type: none"> <li>● 各類點焊機械</li> <li>● 印刷機</li> <li>● 光學儀器</li> <li>● 醫療儀器</li> </ul>                     | <ul style="list-style-type: none"> <li>● 防止點焊機械頭過熱損壞。</li> <li>● 本機本身具備水箱，故可節約自來水流失。</li> <li>● 構造簡單，保養容易。</li> <li>● 可保護槍頭使用壽命，提高效率，降低成本。</li> <li>● 可以增加儀器試驗穩定度。</li> </ul>                                                                                                                                      |
| AO<br>油箱<br>散熱器     | <ul style="list-style-type: none"> <li>● CNC車床油壓系統</li> <li>● 內外徑研磨油壓油冷卻</li> <li>● 各類機械油壓箱冷卻</li> </ul>                      | <ul style="list-style-type: none"> <li>● 可以降低油溫，避免溫度過高造成油質氧化。</li> <li>● 構造簡單，維修容易，壽命長。</li> <li>● 不會像一般冷凝器用水冷卻，有油水混合的可能，造成機械損害。</li> <li>● 消耗電力低，節省能源。</li> </ul>                                                                                                                                                 |

## 威士頓主要產品系列

| 產品種類                      | 使用場合                                                                                                                                                                                                                 | 特 性                                                                                                                                                                                                                                     |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EC<br>控制箱專用熱交換器<br>(天井式)  | <ul style="list-style-type: none"> <li>● CNC車床、沖床</li> <li>● CNC銑床、磨床CNC綜合加工中心機</li> <li>● CNC內外徑研磨機</li> <li>● CNC劍尾式紡織機</li> <li>● CNC木工雕刻機</li> <li>● CNC放電加工機</li> <li>● CNC彈簧製造機</li> <li>● CNC雷射切割機</li> </ul> | <ul style="list-style-type: none"> <li>● 熱管式熱交換器是一種節約能源且效率高的傳熱導體。</li> <li>● 設計成簡單輕巧組合、安裝容易。</li> <li>● 高效率熱交換器採用密閉型設計，內外空氣不產生對流。</li> <li>● 熱交換器管內是一種很穩定且吸熱潛能大、液態物質作媒介，安全性高，熱傳導效率約為銅的1600倍。</li> <li>● 天井式熱交換器安裝於控制箱頂部不佔空間。</li> </ul> |
| CR<br>CNC線切割機專用<br>水冷却機   | <ul style="list-style-type: none"> <li>● CNC線切割機</li> </ul>                                                                                                                                                          | <ul style="list-style-type: none"> <li>● 本機採用上吹式散熱，可完全將熱氣排出，不影響周圍溫度。</li> <li>● 採用電子式數位控制面板，精度±1°C。</li> <li>● 本機採恆溫控制，可確保模具加工精度，減少銅線消耗。</li> <li>● 蒸發器部份採用大流量高效率，不鏽鋼316材質熱交換器。</li> <li>● 本機可以和CNC連線，傳送故障訊號。</li> </ul>                |
| CAD<br>冷凍式<br>空氣乾燥機       | <ul style="list-style-type: none"> <li>● 工作機械、氣動工具機器</li> <li>● 醫療機器</li> <li>● 塗裝、雷射切割</li> <li>● 高速主軸</li> </ul>                                                                                                   | <ul style="list-style-type: none"> <li>● 可防止工作機械因水份過高而生鏽，造成動作異常。</li> <li>● 可防止醫療機械軸承及傳動部份生鏽。</li> <li>● 可防止烤漆塗裝時，所造成泡粒，增加表面亮度。</li> <li>● 可防止雷射光打穿折射鏡片。</li> <li>● 可防止高速主軸內生鏽增加散熱。</li> </ul>                                          |
| PF<br>冷却風扇                | <ul style="list-style-type: none"> <li>● 電氣箱</li> </ul>                                                                                                                                                              | <ul style="list-style-type: none"> <li>● 風量大、噪音低。</li> <li>● 風扇葉片一體射出成型，不易變形。</li> <li>● 隱藏式端子台，保護接點不氧化。</li> </ul>                                                                                                                     |
| CL<br>雷射切割<br>雕刻專用<br>冷却機 | <ul style="list-style-type: none"> <li>● 大功率雷射(1000W~2500W)及小型雷射機械(50W~300W)</li> </ul>                                                                                                                              | <ul style="list-style-type: none"> <li>● 將雷射頭部之熱源分別冷却。</li> <li>● 使用高壓泵浦及迴路洩壓保護系統。</li> <li>● 使用不鏽鋼316材質板式熱交換器大大提升交換量，節省電源消耗。</li> <li>● 可以連接CNC雷射切割機作遠端操作及故障信號追溯等作用。</li> <li>● 將雕刻雷射頭部之燈管箱及Qsw之熱量冷却。</li> </ul>                       |
| CNT<br>模溫機                | <ul style="list-style-type: none"> <li>● 塑膠機械</li> <li>● 射出成型機</li> </ul>                                                                                                                                            | <ul style="list-style-type: none"> <li>● 改善模具功能及提升效率有很大的幫助。</li> </ul>                                                                                                                                                                  |
| CK<br>切削液<br>冷却機          | <ul style="list-style-type: none"> <li>● CNC車床</li> <li>● CNC綜合加工機之中心機</li> <li>● 磨床</li> <li>● CNC內外徑研磨機</li> <li>● CNC銑床</li> </ul>                                                                                | <ul style="list-style-type: none"> <li>● 本機為切削加工冷却機，不受雜質污染，切削金屬粉等所干擾。</li> <li>● 清潔簡單，保養容易。</li> <li>● 不鏽鋼材質油浸式熱變位器效率高，不會產生氧化鐵。</li> <li>● 安裝方便，不佔空間。</li> </ul>                                                                        |

※本公司因保留技術需求有隨時更改內容，文字之權力，更改內容恕不另行通知。

※使用注意事項：客戶使用冷却機，若為24小時不停運轉，建議加大冷却能力，以免造成壓縮機超負載使用，而減損冷却機壽命。

## 威士頓公司售後服務保證書

親愛的客戶：

感謝您使用本公司生產之工業用冷却機系列，在使用前請詳閱本注意事項，期使能正確使用。

### 一、注意事項：

- (1) 請注意定期清理過濾網之灰塵（若落塵量大，請增加次數）。
- (2) 若冷却機經搬動，請半小時後再通電，以免壓縮油滲漏，阻塞毛细管。
- (3) 保固期限：自出廠起一年內(不包括天災損害及人為不當使用如：不按作手冊操作或不清理過濾網等)。

### 二、以下事項在保證期間內，若發生故障，本公司維修將酌收工本費：

- (1) 若未依照威士頓之操作事項操作而導致機器毀損，不在此保固內。
- (2) 使用非本公司提供之零組件或非本公司維修而引起之故障。
- (3) 耗材（如冷媒CFC-R134、R22、過濾網、濾心、過濾器、回油濾等）。
- (4) 機器因天災及人為不可抗力（如暴動或戰亂）之原因損壞。
- (5) 因電力不足或高壓放電對本機造成之損壞。
- (6) 在本操作手冊所指之使用範圍以外。
- (7) 由於其他機械故障，以致引起冷却機在使用中所引起之二次故障。

### 三、本機之保證限在本國。

### 四、本保證書須加蓋公司印章，且註明機型機號，方得生效。

### 五、本保證書塗改無效，請妥為保存，遺失恕不補發。

### 六、服務專線：

TEL: 886-4-24180799代表號 FAX: 886-4-24180699

### 七、本機品名：

本機機號：

出廠日期： 年 月 日

### 八、客戶名稱：

住 址：

電 話：

公司  
保  
固  
章

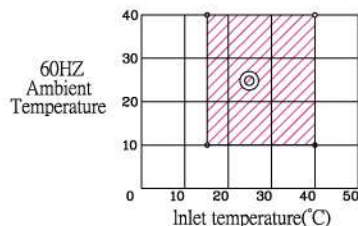
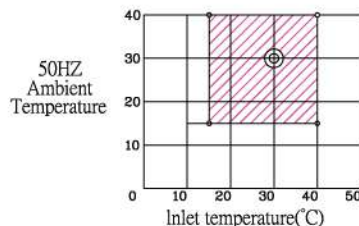
※請填好上列資料，傳真回本公司，建立客戶服務檔案。



## 1. General attention points:

### 1.1. Application

CA Air Conditioners are designed for electric control box of the CNC machine or CNC special purpose machine. CNC controller can be run in the constant temp if you refer to the following illustration limit while application.



### 1.2. Permissible tolerance for the power supply

- ① The air conditioner is designed with built in protection for the compressor and electrical parts while the voltage tolerance + 10% .
- ② Frequency tolerance +1°

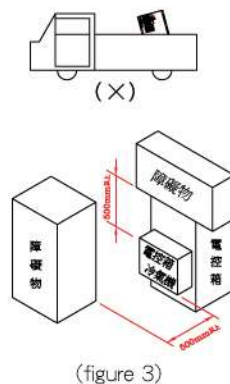
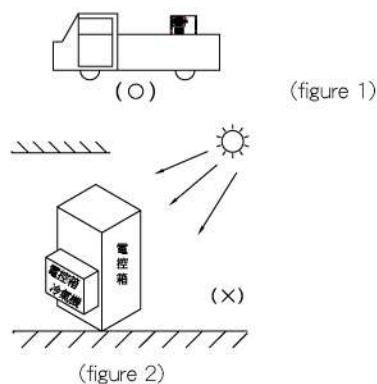
## 2. General points for attention while transportation and maintenance

### 2.1. Keep the air conditioner from toppling and falling during transportation.

(see figure 1)

### 2.2. Put the air conditioner at the horizontal and keep it away from the direct sunlight and the heat source. (see figure 2)

### 2.3. Locate the air conditioner at a well-ventilated place and keep it away from the dust one. (see figure 3)

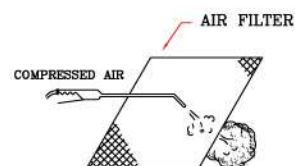


★ Logo is designed by aesthetics and partial will be changed.  
Pls. keep on supporting us.

### 2.4. Wash the air conditioner surface.

Please wash the cooler surface with the neutral cleaning agent or high quality soapy water instead of the acidity solvent.

### 2.5. The air filter shall be washed with soapy water once a week. (see figure 4)



Eliminate dust by compressed air

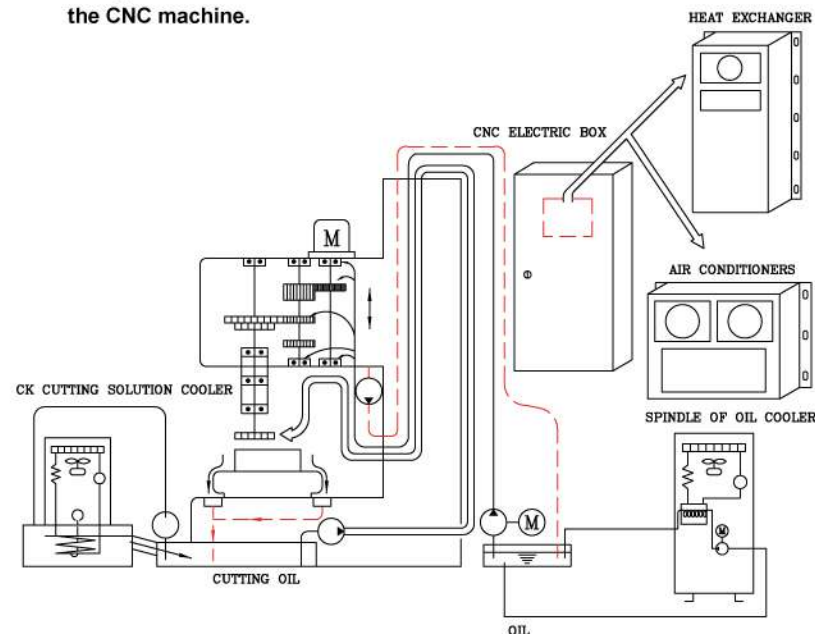
(figure 4)



Dry the filter after wash clean

## 3. Application

### 3.1. An application illustration of the air conditioner for the electrical control box in the CNC machine.





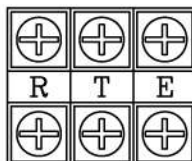
#### 4. Check points before air conditioner start-ups:

- Check and make sure the power supply is compatible to the rated power of the air conditioner.
- If the main working machine installed with a current overload relay, please set it "ON"
- Please check and make sure the power switch is Power Off.
- Check the electrical control box, make sure it is airtight.
- Check the drainpipe of the air conditioner, make sure it is tightly secured.

5. If the user repeatedly switch on and switch off the air conditioner, this may cause the overload switch trips. Please take 2-3 minute break then start the air conditioner again.

6. The diagram of the terminal block to show the contacts of power supply and statements for alarm and remote control contacts.

- R.T. are the input power contacts of the air conditioner.
- E is the grounding wire

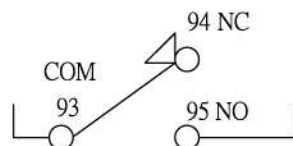


6.1. The panel air conditioner reserves functions of fault output and remote control . The buyer or user can directly make them connection when they need to use them or advises the manufacturer to connect them to the terminal block while ordering.

Function setting:

93 and 95 are the signal b contact. (see the following figure) This set of alarm contacts could be connected with the main working m/c to directly get the air conditioner function (alarm) status.

( Contacts of 93 and 94 are normally close. ) ⇔ ( when the air conditioner power off )  
( Contacts of 93 and 95 are normally open )



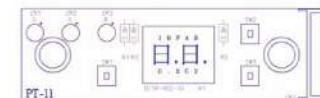
P.S. As usual, 93,95 are alarm contacts in the air conditioner. Please change the 94 and 95 when you feel the original connection unsuitable for your machine.

224,225 are the remote control connection and can be connected with the working machine as the ON/OFF switch. (PT11, PT-13 Don't have this function.)

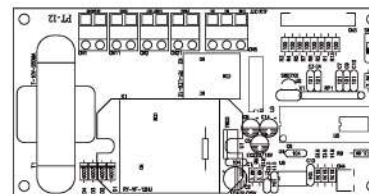
#### 7. Monitor display control panel



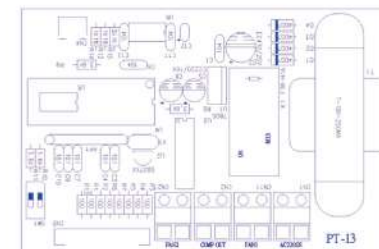
<PT-11 control panel front view>



<PT-11PC board rear view>



<PT-12PC board rear view>

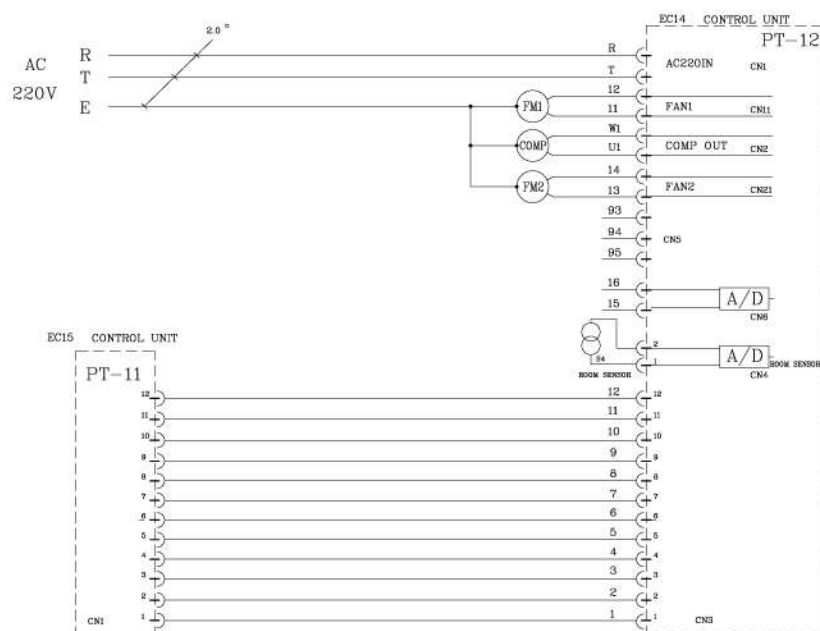


<PT-13 PC board rear view>

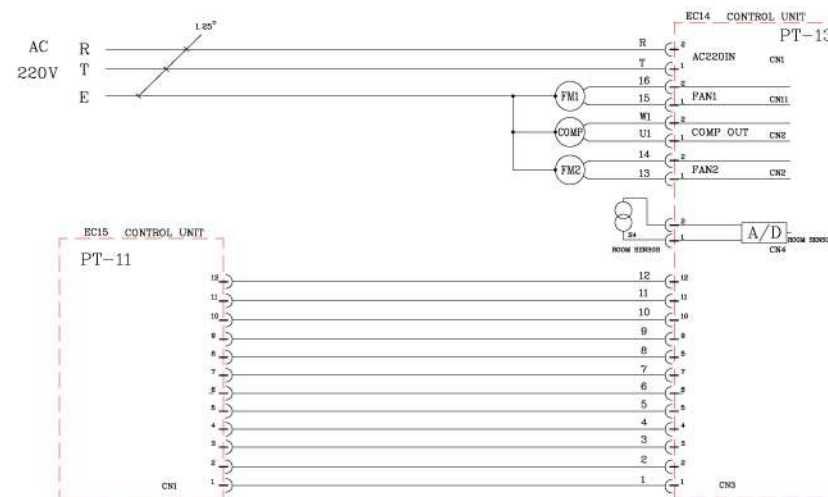
#### Operation and function of small control panel

| NO. | ITEM         | OUTLINE               | OPERATION & FUNCTION                                                                                                                                                               |
|-----|--------------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | Set keys     | ON/OFF KEY            | Touch type switch. start and stop the air conditioner.                                                                                                                             |
| 2   |              | TEMPERATURE SETTING   | Show the current air temperature in the electrical control box at usual time. If you press the button then adjust the left or right button to set the required output temperature. |
| 3   | Working lamp | POWER ---- green lamp | Power Source lamp. Show the air conditioner is power on.                                                                                                                           |
| 4   |              | COOL ---- green lamp  | Compressor is running normally.                                                                                                                                                    |
| 5   | ALARM        | BREAKDOWN ALARM LAMP  | air conditioner is unusual.                                                                                                                                                        |

### 8. PT-11,PT-12 PC board wiring and control circuit diagram



### PT-11, PT-13 PC board wiring and control circuit diagram



## 9. PT-11 · PT-12 · PT-13 VERTICAL SMALL PC BOARD OPERATING MANUAL

### S4 DIP SW FUNCTION

1. OFF -> MANUAL CONTROLLED / ON -> REMOTE CONTROLLED
2. OFF -> NORMAL ACTION MODE / ON -> FUNCTION SETTING

### S4 DIP SW - 4 : ON

FUNCTION SETTING : USING THE KEY "ON/OFF" TO CHOOSE THE SETTING ITEMS AND THEN USE THE KEY  $\Delta$   $\nabla$  TO ADJUST THE SETTING VALUE.

Setting items : By POWER , COOL , ALARM 3 LED twinkling status to show \*

| POWER | COOL | ALARM | HORIZONTAL SMALL PC BOARD                                                                                                                             |
|-------|------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| LED   | LED  | LED   | VERTICAL SMALL PC BOARD                                                                                                                               |
| ●     |      |       | Alarm setting for over temp.                                                                                                                          |
|       | ●    |       | Setting protection for low temp. The compressor will stop running when the temperature in the electrical control box is lower than the setting value. |
| ●     | ●    |       | Setting the min fixed temp. It is used to limit the operating mode of fixed temp. of the air conditioner to set the maximum temperature.              |
|       |      | ●     | Setting the min fixed temp. It is used to limit the operating mode of fixed temp. of the air conditioner to set the maximum temperature.              |
| ●     |      | ●     | The action precision of compressor.                                                                                                                   |
|       | ●    | ●     | Adjusting the temperature in the electrical control box. Using this function to adjust when the temperature in the control box has an error.          |
| ●     | ●    | ●     | Adjusting the ambient temperature. Using this function to adjust when the ambient temperature has an error.                                           |
|       |      |       | Setting the compressor start delay time. The delayed time is "setting value" times 10. (unit : second)                                                |

## 10. Trouble shooting

- (1) The air conditioners general set at 25°C. If the compressor keep running, without stop the check list might as follow :

| TROUBLE                                                                                                                                                                                                                                   | TROUBLESHOOTING                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> <li>1. Cooling capacity not enough</li> <li>2. The refrigerant is not enough</li> <li>3. Fan is not running</li> <li>4. The temperature sensor is broken</li> <li>5. Condenser is too dirty</li> </ol> | <ol style="list-style-type: none"> <li>1. Exchange large capacity of the air conditioner model.</li> <li>2. Inform our engineer or find a professional at local to inspect and repair.</li> <li>3. Change the fan.</li> <li>4. Replace a new temperature sensor.</li> <li>5. Use compressed air to clean the condenser then turn on the air conditioner again.</li> </ol> |

- (2) When the compressor cannot run and electrical box temperature keep rising, the check list might as following :

| TROUBLE                                                                                                                                          | TROUBLESHOOTING                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> <li>1. The compressor is broken</li> <li>2. The fuse was burnt</li> <li>3. ON/OFF switch is broken</li> </ol> | <ol style="list-style-type: none"> <li>1. Replace a new compressor</li> <li>2. Replace a fuse</li> <li>3. Replace a new switch</li> </ol> |

- (3) When the compressor cannot run and electrical box temperature keep rising, the check list might as following :

| TROUBLE                                                                                                           | TROUBLESHOOTING                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> <li>1. The compressor is broken</li> <li>2. ON/OFF switch is broken</li> </ol> | <ol style="list-style-type: none"> <li>1. Replace a new compressor</li> <li>2. Replace a new ON/OFF switch</li> </ol> |

P.S. Unclean the air filter periodically to cause the breakdown is out of the warranty.  
Please install the air conditioner with screw size M6x15mm.



### WEXTEN MAIN PRODUCTS SERIES

| TYPE                                                | APPLICATION                                                                                                                                                                                                                                                                                                       | FEATURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CO SERIES-OIL COOLER                                | <ul style="list-style-type: none"> <li>CNC machine center</li> <li>CNC grinder.Broach Machine</li> <li>CNC wood carving machine</li> <li>Oil pressure machine</li> <li>CNC lathe.High-speed lathe</li> </ul>                                                                                                      | <ul style="list-style-type: none"> <li>Maintain constant oil temperature lubrication oil.</li> <li>Prevent oil deterioration. Maintain viscosity and stable oil pressure.</li> <li>Built-in safety protection devices ensure no sudden breakdown.</li> <li>Computer controlled sensors adjust oil temperature according to ambient temperature ensure precision in machining processes.</li> </ul>                                                                                                                                                                                         |
| CW SERIES-WATER COOLER                              | <ul style="list-style-type: none"> <li>Laser cutting machine</li> <li>Printing machine</li> <li>lathe grinder</li> <li>Ultrasonic machine</li> <li>Injection Molding Machine</li> </ul>                                                                                                                           | <ul style="list-style-type: none"> <li>Condenser unit mounted at top for top heat discharge.</li> <li>Easy set up. Easy maintenance. No need for cooling tower. Efficient heat exchanger prevent carbon and dirt accumulation.</li> <li>Pastel colors ensure easy match with most work environments and CNC machines.</li> <li>Electronic digital temperature control of <math>\pm 1</math> degree C.</li> </ul>                                                                                                                                                                           |
| CA SERIES-AIR CONDITIONERS FOR ELECTRIC CONTROL BOX | <ul style="list-style-type: none"> <li>CNC lathe</li> <li>CNC machining center</li> <li>CNC planomiller</li> <li>CNC planogrinder</li> <li>CNC machining center (5 sides)</li> <li>CNC laser cutting machine</li> <li>CNC spring machine</li> <li>CNC wire cutting machine</li> <li>CNC instrument box</li> </ul> | <ul style="list-style-type: none"> <li>Maintain steady, air conditioned cooling within the recommended operating temperature for electrical panels.</li> <li>Prevent ingress of dust, humidity and moisture into electrical control panels.</li> <li>Tough design. Can withstand high ambient temperature of 38 degrees C and above.</li> <li>May be internal or external mounted. Enclosed design ensure no mixing of internal and ambient air.</li> <li>Most suitable for electrical control boxes or panels when the temperature must be lower than the ambient temperature.</li> </ul> |
| CE SERIES-EDM SPECIAL PURPOSE COOLER                | <ul style="list-style-type: none"> <li>EDM machine</li> </ul>                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>Compact heat exchanger design ensure no clogging due to accumulated carbon particles.</li> <li>Maintain constant oil temperature ensure quality of the EDM process.</li> <li>Prevent oil carbonization. Help reduce fouling of the air of the working environment ensure operators' health are protected.</li> <li>EDM can now operate with higher current discharge to help reduce machining time.</li> <li>Prevent fire risk from carbon accumulation due to continuous machining.</li> </ul>                                                     |
| EA SERIES-HEAT EXCHANGER                            | <ul style="list-style-type: none"> <li>CNC lathe</li> <li>CNC machine center</li> <li>CNC press machine</li> <li>CNC grinder</li> <li>CNC internal &amp; external diameter grinder</li> <li>CNC papier loom</li> <li>CNC milling machine</li> <li>Laser cutting machine</li> </ul>                                | <ul style="list-style-type: none"> <li>Ideal and efficient device. Energy saving.</li> <li>Simple, handy and efficient heat exchanger. Enclosed design ensure no exchange of internal and ambient air.</li> <li>Build to IP protection ratings.</li> <li>Heat conduction efficiency 1600 times of copper.</li> <li>Choice of Internal or External Mount.</li> </ul>                                                                                                                                                                                                                        |
| AW SERIES-WATER COOLING FOR WELDING MACHINE         | <ul style="list-style-type: none"> <li>Various welding machines</li> <li>Printing</li> <li>Optical instruments</li> <li>Medical instruments</li> </ul>                                                                                                                                                            | <ul style="list-style-type: none"> <li>Prevent overheating or burned head of welding gun.</li> <li>Built in water tank reduces water consumption.</li> <li>Simple design. Easy maintenance.</li> <li>Improved welding efficiency. Lower cost.</li> <li>Ensure test instrument reading stability. Little fluctuation.</li> </ul>                                                                                                                                                                                                                                                            |

### WEXTEN MAIN PRODUCTS SERIES

| TYPE                                                           | APPLICATION                                                                                                                                                                                                                                                                          | FEATURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AO SERIES-HEAT PIPE HEAT EXCHANGER FOR OIL COOLING             | <ul style="list-style-type: none"> <li>CNC oil-pressure system of lathe</li> <li>Oil-pressure of internal &amp; external diameter grinder</li> <li>Various oil-pressure tank</li> <li>Oil-pressure system of CNC machine center</li> </ul>                                           | <ul style="list-style-type: none"> <li>Reduce oil temperature and maintain oil viscosity.</li> <li>Simple desing.Easy maintenance.Long product life.</li> <li>Design ensure no mixing of oil and water.</li> <li>Energy saving.Small power consumption.</li> </ul>                                                                                                                                                                                                                      |
| EC SERIES-HEAT PIPE HEAT EXCHANGER                             | <ul style="list-style-type: none"> <li>CNC lathe</li> <li>CNC machining center</li> <li>CNC press machine</li> <li>CNC grinder</li> <li>CNC internal &amp; external diameter grinder</li> <li>CNC papier loom</li> <li>CNC milling machine</li> <li>Laser cutting machine</li> </ul> | <ul style="list-style-type: none"> <li>Ideal and efficient device. Energy saving</li> <li>Simple, handy and efficient heat exchanger. Enclosed design ensure no exchange of internal and ambient air.</li> <li>Build to IP protection ratings.</li> <li>Heat conduction efficiency 1600 times of copper.</li> <li>Top mount type,space saving when installed in control box.</li> </ul>                                                                                                 |
| CR SERIES-SPECIFIC FOR CNC WIRE CUTTING                        | <ul style="list-style-type: none"> <li>CNC wire cutting machine</li> </ul>                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>Top discharge of exhaust heat.</li> <li>Electronic panel temperature control with tolerance of <math>\pm 1^{\circ}\text{C}</math>.</li> <li>Maintain constant cooling temperature ensure product precision.Reduce wire consumption.</li> <li>Stainless steel heat exchanger.Evaporator design of large pipe diameter ensure high flow.</li> <li>When interlocked to CNC machine,breakdown,if any will be indicated.</li> </ul>                   |
| CAD SERIES-COOLING AIR DRYER                                   | <ul style="list-style-type: none"> <li>Machining pneumatic tool</li> <li>Medical appliances</li> <li>Paint laser cutting maching</li> <li>High-speed drive axle</li> </ul>                                                                                                           | <ul style="list-style-type: none"> <li>Prevent corrosion,and rust formation</li> <li>Increased paint color brilliance.No bubbles.</li> <li>Improved heat exhaustion.</li> <li>Prevent refraction mirror breakage caused by laser.</li> </ul>                                                                                                                                                                                                                                            |
| PF SERIES-COOLING EAN                                          | <ul style="list-style-type: none"> <li>Electric control box</li> </ul>                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>High wind power.Low noise.</li> <li>Tough fan blades.Not easily deformed.</li> <li>Concealed joint.Help reduce corrosion.</li> </ul>                                                                                                                                                                                                                                                                                                             |
| CL SERIES-WATER COOLING FOR CNC LASER CUTTING ENGRAVER MACHINE | <ul style="list-style-type: none"> <li>Heavy laser machines (1000W~2500W)</li> <li>Small-type laser machines (50W~300W)</li> </ul>                                                                                                                                                   | <ul style="list-style-type: none"> <li>Cools the laser cutting head.</li> <li>Uses high pressure pump and water pressure circuit ensure system protection.</li> <li>Uses 316 stainless steel compact brazed heat exchanger. saves on energy consumption and ensure good heat exchanger.</li> <li>Has remote control operation and breakdown signal indication when connected to CNC laster cut machine</li> <li>Cooling the laser head engraving or cutting head compartment</li> </ul> |
| CK SERIES-CNC CUTTING MACHINE COOLER                           | <ul style="list-style-type: none"> <li>CNC lathe</li> <li>CNC machining center</li> <li>CNC grinder</li> <li>CNC internal &amp; external diameter grinder</li> <li>CNC milling machine</li> </ul>                                                                                    | <ul style="list-style-type: none"> <li>This CK series is suitable for turning,grinding and cutting machines.No impurities or metal filing interference. Paint.laser cutting</li> <li>Easy to maintain and clean.</li> <li>Stainless steel shell heat exchanger ensures no corrosion problem.</li> <li>Easy to install.Space saving.</li> </ul>                                                                                                                                          |
| CNT SERIES                                                     | <ul style="list-style-type: none"> <li>Plastic M/C</li> <li>Injection M/C</li> </ul>                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>Improve mould function and promote efficiency.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                        |

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