



# ST-3500

## ST3500 OPERATION MANUAL ST3500 操作手冊

Please read the OPERATION MANUAL before use  
使用前請詳閱操作手冊





# ST 3500

## ST3500 OPERATION MANUAL T3500 操作手冊

## Features 產品特點

2



1. Generate an alternating electromagnetic field by using 3.5KW high-frequency thermal coil. Refer to the heating time sheet, it's easy to load and unload tools just need to set the diameter and heating seconds.
  2. Prolong holder life by using low-powered heating and water cooling.
  3. By water-cooling with coolant, it can clean most of carbon deposits and prevent the chuck become rusty.
  4. Use with Speed Tiger Shrink Fit Chucks and Power Tips Series, will show the maximum performance and economic benefits of shrink system.
  5. Combine 2 functions in 1 machine: Operate heating and cooling process at one machine, i.e. no need to remove the base. Operating time within 1 minute and use friendly.
1. 採用3.5KW功率進行中週波調變，產生交流磁場，進行感應加熱。可使用內建參數表或自訂秒數進行加熱。
  2. 低功率加熱，可延長刀桿壽命。更可直接淋浴式水冷。
  3. 利用水冷卻方式，搭配專用冷卻劑，進而清除大部分積碳，更有效抑制刀桿生鏽。
  4. 本設備搭配使用震虎燒結刀桿與斬露頭角系列產品，更可展現出燒結系統最大效益。
  5. 本機採用一體式設計，燒結冷卻同一機上作業，操作方便可在一分鐘內完成作業。

### Specifications 機台規格

Power功率	3.5KW
Voltage電壓	1ø220V 15A
Tools適用刀具	Solid Carbide 鎢鋼
Tool diameter適用刀具直徑	3~32mm
Maximum length of shrink fit chuck最大熱縮刀柄長度	300mm
Dimensions機器尺寸	(W)600x(L)480x(H)777 mm
Weight機器重量	80Kg

# ST-3500

## 3.5KW Induction Machine and Water Cooling Station 3.5KW 電磁感應加熱水冷機組

### Standard Equipment 標準配件

#### Induction Unit Toolholder Base / 刀桿基座

STOCK 庫存	CODE 型號	W 重量 (KG)	(Q'TY) 內含數量
◎	EZ BASE NO40(FIT BT40, SK40 & CAT40) (適合 BT40, SK40 & CAT40 刀桿)	1.00	1PC/ 1 個

Standard Equipment include ONE piece "Toolholder base". We provide various spec. for choosing. If no specified, it will be included tool holder base fit BT40.  
標準配備內含一個刀桿基座，多種規格任您挑選。  
若無特別註明，則搭配 BT40 刀桿基座。



#### Heat Resist Gloves / 耐熱手套

STOCK 庫存	CODE 型號	W 重量 (KG)	(Q'TY) 內含數量
◎	HEAT RESIST GLOVES 耐熱手套	0.08	1PC/ 1 個



#### Round Tray / 熱膨脹燒結刀桿用刀具圓形放置盤

STOCK 庫存	CODE 型號	W 重量 (KG)	(Q'TY) 內含數量
◎	EZ ROUND TRAY 熱膨脹燒結刀桿用刀具圓形放置盤	0.50	1PC/ 1 個

Suitable for EZ BASE Sxx 適用任何規格之刀桿基座



#### Shower House / 冷卻雨淋上蓋

STOCK 庫存	CODE 型號	W 重量 (KG)	(Q'TY) 內含數量
◎	EZ3W SHOWER HOUSE (A) EZ3W 冷卻雨淋上蓋 (A)	1.40	1PC/ 1 個
◎	EZ3W SHOWER HOUSE EXTENSION (B) EZ3W 冷卻雨淋上蓋 (B)	0.40	1PC/ 1 個



(A) (B)  
Has been installed on ST3500  
已裝在機上

#### Coolant Liquid / 冷卻劑

STOCK 庫存	CODE 型號	W 重量 (KG)	(Q'TY) 內含數量
◎	EZ3W COOLANT LIQUID 600ML 冷卻劑 600 毫升	0.60	1PC/1 個

EZ3W COOLANT LIQUID 600ML is for the whole tank of shower station. Use coolant liquid same as grinding machine. Recommend coolant liquid Castrol Syntilo 9930, and replace coolant liquid for all tank at every 6~12 months.  
冷卻液 600 毫升剛好供冷卻水槽使用，EZ3W 冷卻液使用水溶性切削研磨液。  
建議使用 Castrol Syntrol 9930 水溶性切削研磨液，並每 6~12 月更換水槽冷卻液。



#### Tool Set / 工具組

STOCK 庫存	CODE 型號	W 重量 (KG)	(Q'TY) 內含數量
◎	TOOL SET 工具組	0.40	1SET/ 1 組

Hex Wrench SET 六角扳手組 \*1SET  
Long Nose Plier 尖嘴鉗 \*1PC  
Heating Sleeve 導熱套筒 \*1PC  
Slip Joint Plier 鯉魚鉗 1PC  
Stainless Steel Ruler 150mm 不鏽鋼尺 \*1PC  
Power Plug Adapter 轉換插頭 \*1PC  
Filter 濾網 \*1PC



Heating Sleeve 導熱套筒

STOCK ◎ = 標準在庫品 // STOCK ○ = regular stock

### Optional Equipment 選擇配件

#### Toolholder Base / 刀桿基座

STOCK 庫存	CODE 型號	W 重量 (KG)
◎	EZ BASE NO20 (FIT ISO20 & ISO20G)	1.00
◎	EZ BASE NO25 (FIT ISO25 & ISO25G)	1.00
◎	EZ BASE NO30 (FIT BT30 & BT30G)	1.00
◎	EZ BASE NO40 (FIT BT40, SK40 & CAT40)	1.00
◎	EZ BASE NO50 (FIT BT50, SK50 & CAT50)	1.00
◎	EZ BASE H025 (FIT HSK025)	1.00
◎	EZ BASE H032 (FIT HSK032, PSC032 & TS032)	1.00
◎	EZ BASE H040 (FIT HSK040, PSC040 & TS040)	1.00
◎	EZ BASE H050 (FIT HSK050, PSC050 & TS050)	1.00
◎	EZ BASE H063 (FIT HSK050, PSC050 & TS050)	1.00
◎	EZ BASE H080 (FIT HSK080, PSC080 & TS080)	1.00
◎	EZ BASE H100 (FIT HSK100, PSC100 & TS100)	1.00



#### Toolholder Extension Base / 刀桿延長桿基座

STOCK 庫存	CODE 型號	W 重量 (KG)
◎	EZ BASE S10	0.30
◎	EZ BASE S12	0.30
◎	EZ BASE S16	0.35
◎	EZ BASE S20	0.35
◎	EZ BASE S25	0.30
◎	EZ BASE S32	0.30
◎	EZ BASE SU03 3/8"	0.30
◎	EZ BASE SU04 1/2"	0.30
◎	EZ BASE SU05 5/8"	0.35
◎	EZ BASE SU06 3/4"	0.35
◎	EZ BASE SU10 1"	0.30
◎	EZ BASE SU12 1 1/4"	0.35



Toolholder Extension Base  
刀桿延長桿基座



BT40 Toolholder Base  
BT40 刀桿基座

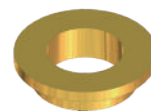
Needs EZ BASE NO40 or EZ ROUND TRAY to operate  
需要搭配 EZ BASE NO40 或 EZ ROUND TRAY 一起使用

#### Extension for BT50 toolholder base / BT50 刀桿基座擴充配件

STOCK 庫存	CODE 型號	W 重量 (KG)
	BT30 Round Tray BT30 刀桿隔環	0.60
	BT40 Round Tray BT40 刀桿隔環	0.60
	HSK30 Round Tray HSK30 刀桿隔環	0.60
	HSK40 Round Tray HSK40 刀桿隔環	0.60
	HSK50 Round Tray HSK50 刀桿隔環	0.60

BT50 toolholder base uses with these Round Tray, and then it can apply to BT30/BT40/HSK30/HSK40/HSK50 toolholder.

若您是選購 BT50 刀桿基座，搭配以上隔環，即可適用 BT30/BT40/HSK30/HSK40/HSK50 刀桿。

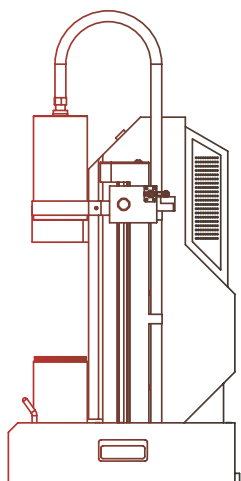
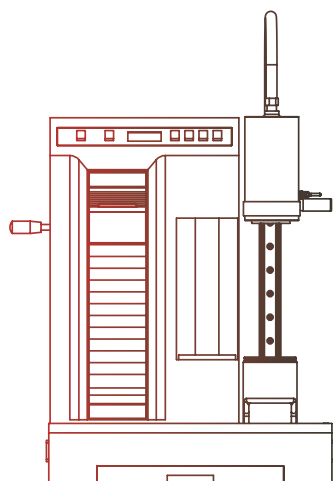
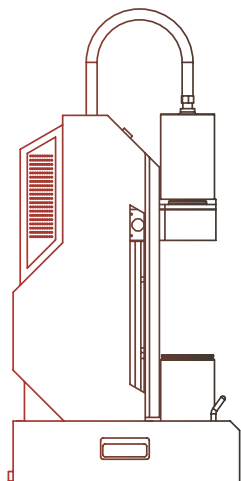


Round Tray  
刀桿隔環



BT50 Toolholder Base  
BT50 刀桿基座

STOCK ◎ = 標準在庫品 // STOCK ○ = regular stock



■ Introduction 產品介紹	006
■ Standard Mode Operation 標準模式操作說明	007
Insert the tool 燒結刀具	007
Take out the tool 取出刀具操作	014
■ Custom Mode Operation 自選模式操作說明	018
■ Heating Sleeve Instruction 導熱套筒使用說明	020
■ Shrink Fit Program for Dual End Set 雙頭龍燒結操作說明	021
Insert the tool 燒結刀具	021
Take out the tool 取出刀具	027
■ Appendix 附件	032
Heating Second Reference 燒結時間參考表	032



# ST3500

### Two Modes Introduction 模式介紹

#### Standard Mode 標準模式

Heating time have been set up according to the size of shank. This setting is based on YAMAKEN's actual test results. If you would like to adjust heating seconds, please choose Custom Mode Operation.

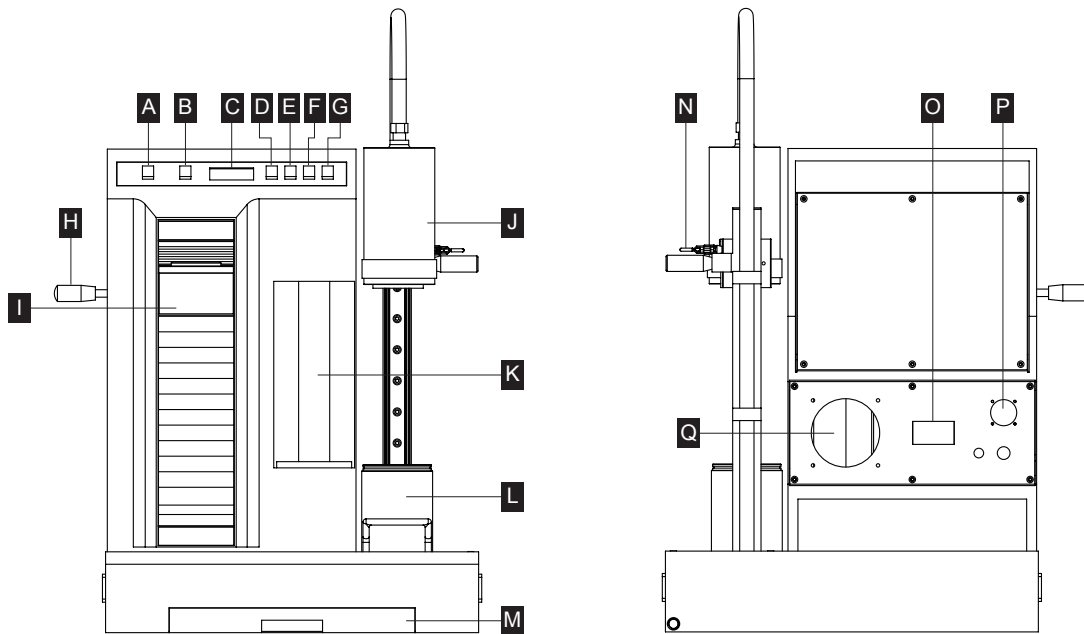
燒結時間已根據刀桿內孔徑不同設定完成。燒結時間設定是依據山謙 (YAMAKEN) 品牌刀桿實際測試所得。若想要調整秒數，請選擇自選模式操作。

#### Custom Mode 自選模式

Heating second could be adjusted by needs of use, and automatically record the last operation setting.

可依據使用需求，自行調整燒結時間，並記憶最後設定之時間。

### ST3500 Unit Diagram 機體部位示意圖



- |                                  |  |   |   |
|----------------------------------|--|---|---|
| <b>A</b> Coolant<br>冷卻鍵          | <b>F</b> Reset<br>重置鍵                      | <b>J</b> Shower House<br>冷卻雨淋上蓋                     | <b>N</b> Handle of Cooling Station<br>冷卻升降桿及卡桿      |
| <b>B</b> Shrink Fit<br>燒結鍵       | <b>G</b> Enter<br>確認鍵                      | <b>K</b> Storage Space for Toolholder Base<br>基座收納區 | <b>O</b> The Earth Leakage Circuit Breaker<br>漏電斷路器 |
| <b>C</b> Display Panel<br>液晶顯示面板 | <b>H</b> Handle of Induction Coil<br>加熱升降桿 | <b>L</b> Toolholder Base<br>刀桿基座                    | <b>P</b> Main Switch<br>主電源開關                       |
| <b>D</b> Up<br>上鍵                | <b>I</b> Induction Coil<br>加熱線圈            | <b>M</b> Integrated Drawer<br>收納抽屜                  | <b>Q</b> Cooling Fan and Filter*<br>冷卻風扇及濾網*        |
| <b>E</b> Down<br>下鍵              |  |   |   |

\* Filter needs to be cleaned regularly  
(at least once every 6 months)

\* 濾網需定期清理  
(至少每6個月1次)



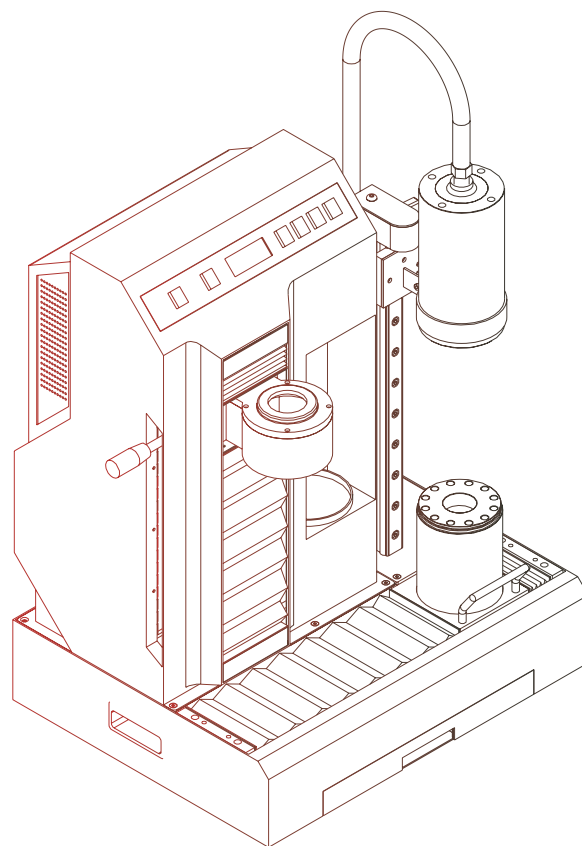
# ST 3500

ST3500 OPERATION MANUAL  
T3500 操作手冊

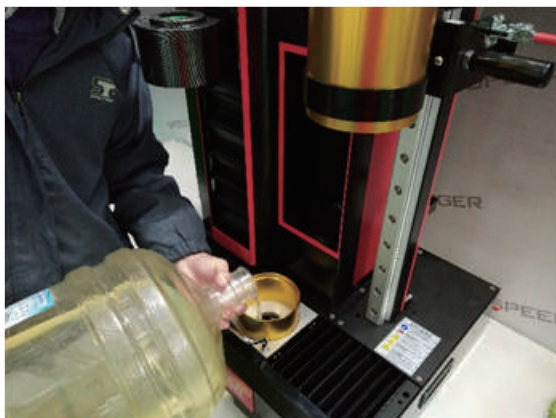
## Standard Mode Operation

標準模式操作說明

Insert the tool  
燒結刀具



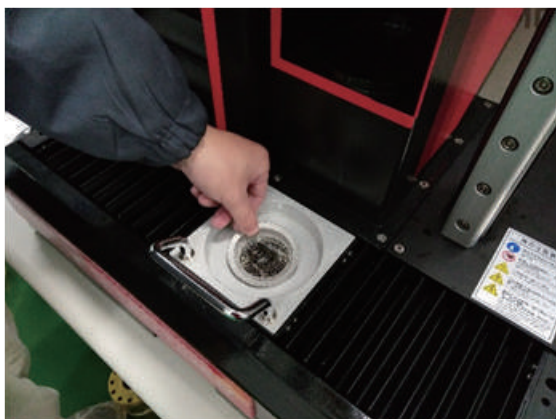
7



### Step 1

Pour 20 liters of water and 600ML of Coolant Liquid into the water tank. (can use SHOWER HOUSE EXTENTION to add water more easily)

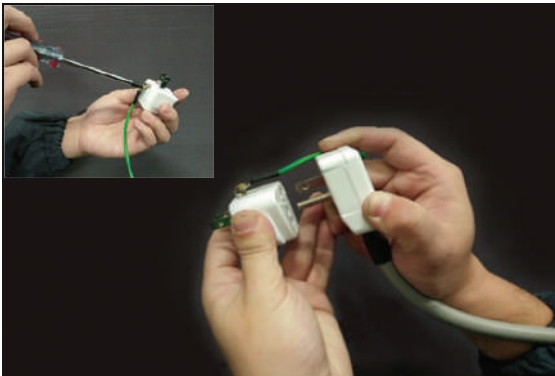
將約 20 公升的水及 600 毫升冷卻液倒入水箱（可放置墊高環以利加水）。



### Step 2

Place the filter over the hole to prevent the tools or other things fall into the tank.

將濾網放置於加水孔，以防刀具或異物掉入



#### Step 3

Insert the plug into the adapter. Plug adapter need to be grounded.

將插頭插入轉接頭。轉接座插頭需要接地。

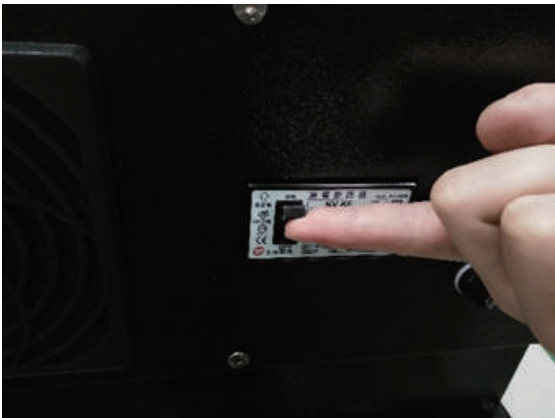


#### Step 4

Insert the connected adapter into the socket.

將連接好的轉接頭插入插座。

\* Voltage 電壓 : 1ø220V 15A



#### Step 5

Turn on the earth leakage circuit breaker  
開啟漏電斷路器。

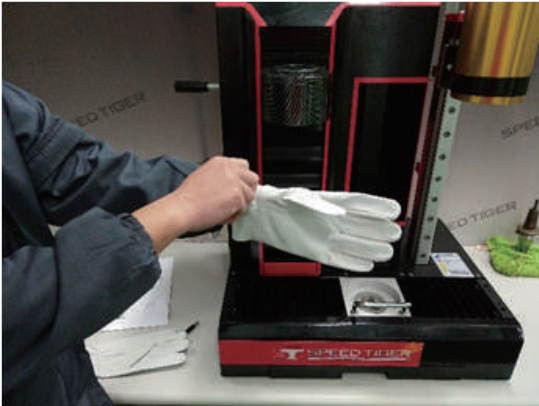


#### Step 6

Turn on the main switch, and then ST-3500 ready.

轉開總開關，即送電完成。

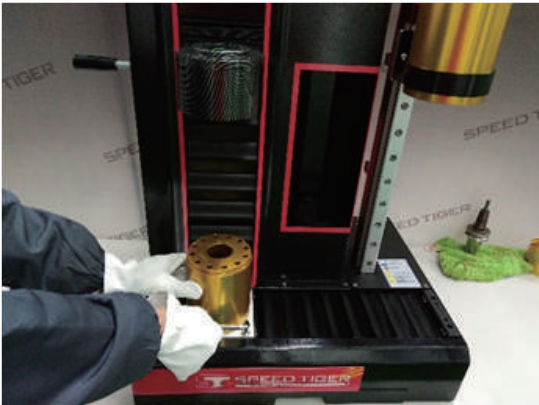




### Step 7

Wear on the heat resist gloves.

戴上隔熱手套。

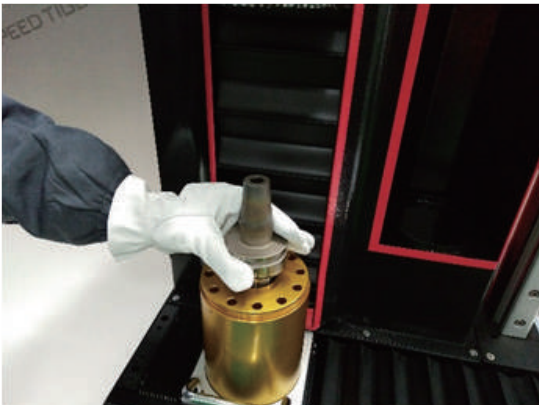


### Step 8

Put suitable Toolholder Base on the Induction Machine, and slide the base to the left side, under the induction coil.  
將刀桿基座放入滑動座並將滑動左移至加熱線圈下方。

\* If the holder you use with back up screw, please adjust the shrink fit length before heating.

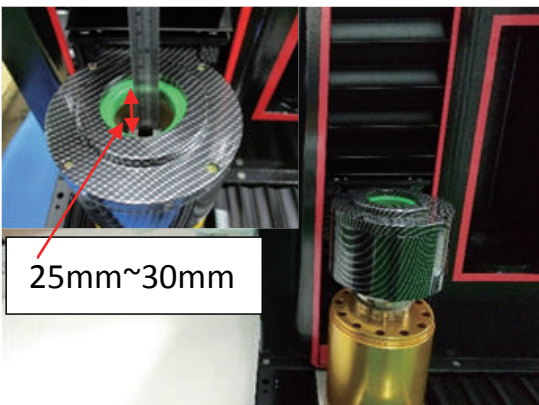
\* 刀桿若有止動螺絲，請先調整好欲燒結刀具長度



### Step 9

Put the shrink fit chuck into Toolholder Base.

將燒結刀桿放置刀桿基座上。



### Step 10

Move the induction coil to the proper position. (The distance from the top of induction coil to the top of chuck is about 25 ~ 30mm)

手持握把將加熱線圈移動至適合的位置（加熱頭端部至燒結刀桿鼻端距離約 25~30mm）。

\* For Slim Holder, the distance from the top of induction coil to the top of chuck is about 16~17mm.

\* 細柄刀桿：加熱頭端部至燒結刀桿鼻端距離約 16~17mm

**Step 11**

Choose the mode you need by pressing the **Up** ↑ or **Down** ↓ . (Standard mode or Custom mode)

按上下鍵選擇需要的模式（標準或自選）。

**Step 12**

Select the **Standard** mode, and press **Enter**.

選定好標準模式後按確認。

**Step 13**

Search the size of tool shank by **Up** ↑ and **Down** ↓ , and then press **Enter**.

使用上下鍵選定要燒結的柄徑大小後按確認。

**Step 14**

Choose **IN** (Insert the tool) or **OUT** (Take out the tool) by **Up** ↑ or **Down** ↓ .

按上下鍵選擇 IN( 燒結刀具 ) 或是 OUT( 取出刀具 )。



#### Step 15

Select **IN** and press **Enter**.

選定好 IN 後按確認。



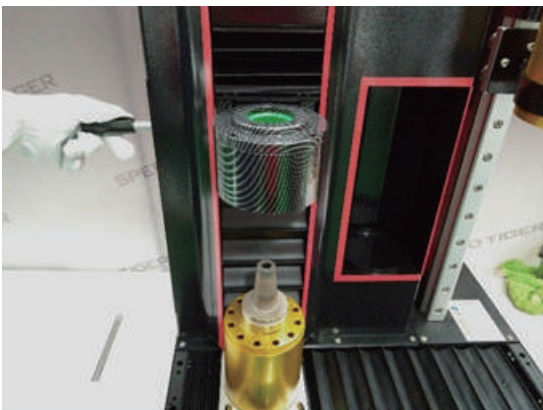
#### Step 16

Press **Shrink Fit** button, count down the time for heating.

按下燒結鍵開始加熱。

\* **Caution: The coil is NOT allowed to move during the heating.**

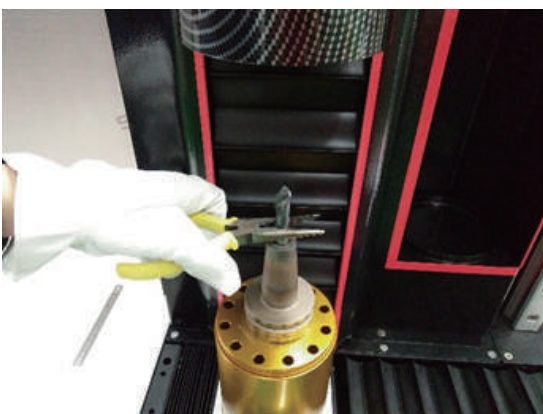
\* 注意：加熱中不可移動線圈



#### Step 17

After heating, move the induction coil to the top.

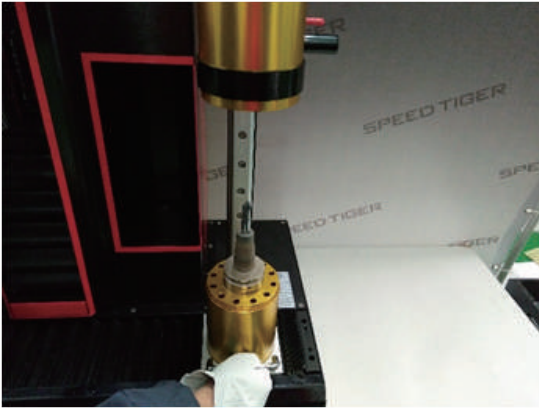
加熱完成後，將加熱線圈上移至頂端。



#### Step 18

Insert the tool into the shrink fit chuck.

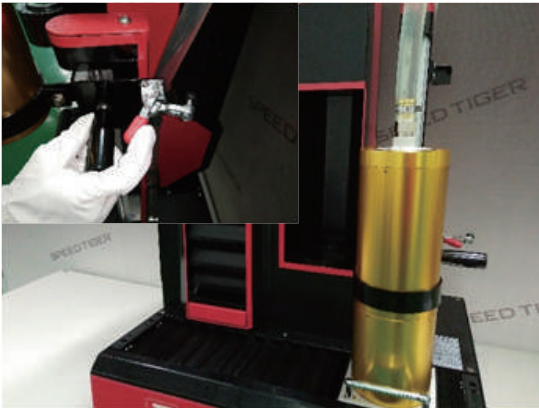
將刀具放入加熱完成的刀桿內。



#### Step 19

Slide the base to the right side, Water Cooling Station.

將燒結完成的刀桿移至冷卻上蓋下方。



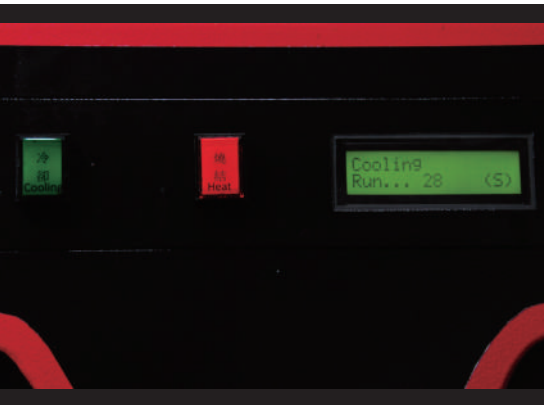
#### Step 20

Loosen the handle on the right side of the Shower House, and move it down.

鬆開夾持固定器，將冷卻上蓋下移至燒結基座。

\* **Caution: Please hold the handle tightly when moving the Shower House.**

\* 注意：移動過程請握好夾持固定器



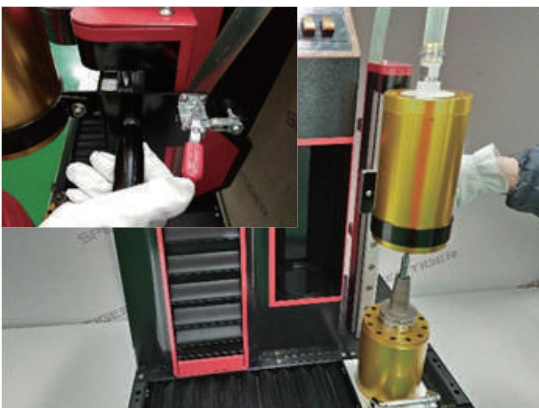
#### Step 21

Make sure the Toolholder Base and Shower House are closed, and then press **Cooling**.

密合後按下冷卻鍵進行冷卻。

\* **Caution: Cooling time is set for 30 seconds**

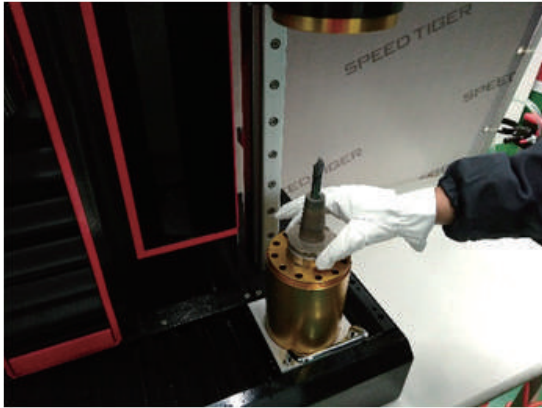
\* 注意：冷卻時間已設定為 30 秒



#### Step 22

After cooling, remove the Shower House to the top and place the handle onto its seat properly.

冷卻完畢後將冷卻上蓋上移至固定位置，並把夾持固定器移至固定座固定。



#### Step 23

Remove the cooling shrink fit chuck.  
拿取冷卻完成之燒結刀桿。



#### Step 24

Wipe it with a dry cloth or use the air pressure gun to dry it.  
使用風槍將燒結刀桿上多餘水份吹乾或擦拭乾淨。

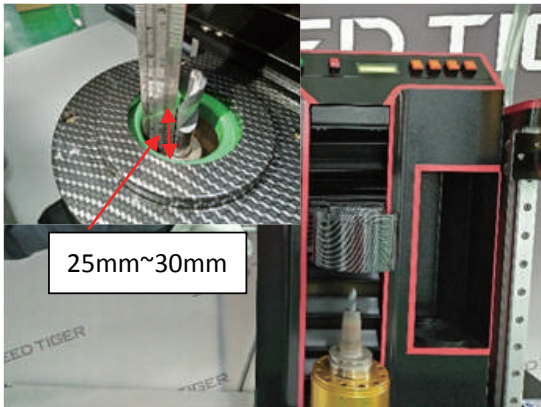
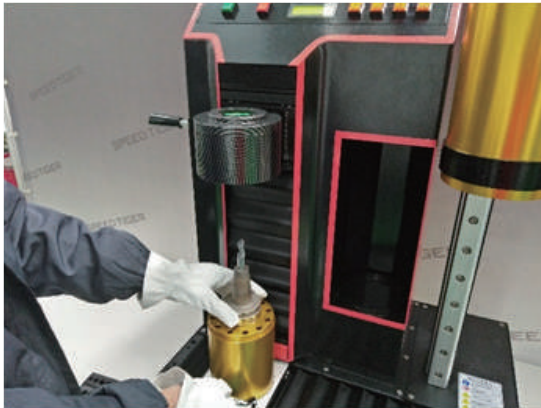
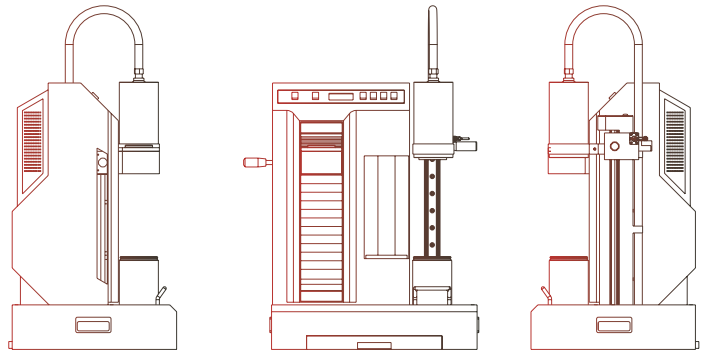


#### Step 25

All steps have been completed, and you may use it now.  
燒結完成。



### Take out the tool 取出刀具操作



25mm~30mm



#### Step 1

Put the shrink fit chuck into Toolholder Base and slide the base to the left side, under the induction coil.

將刀桿放置於刀桿基座上並移至線圈下方。

#### Step 2

Move the induction coil to the proper position. (The distance from the top of induction coil to the top of chuck is about 25 ~ 30mm)

手持握把將加熱線圈移動至適合的位置（加熱頭端部至燒結刀桿鼻端距離約25~30mm）。

\* For Slim Holder, the distance from the top of induction coil to the top of chuck is about 16~17mm.

\* 細柄刀桿：加熱頭端部至燒結刀桿鼻端距離約16~17mm

#### Step 3

Choose the mode you need by pressing the **Up** ↑ or **Down** ↓. (**Standard** mode or Custom mode). Select the Standard mode, and press **Enter**.

按上下鍵選擇需要的模式（標準或自選）。選定好標準模式後按確認。



#### Step 4

Search the size of tool shank by **Up** ↑ and **Down** ↓, and then press **Enter**.  
使用上下鍵選定要燒結的柄徑大小後按確認。



#### Step 5

Choose **IN** (Insert the tool) or **OUT** (Take out the tool) by **Up** ↑ or **Down** ↓. Select the **OUT** mode, and press **Enter**.  
按上下鍵選擇 IN( 燒結刀具 ) 或是 OUT( 取出刀具 ), 選定 OUT 取出模式後按確認。

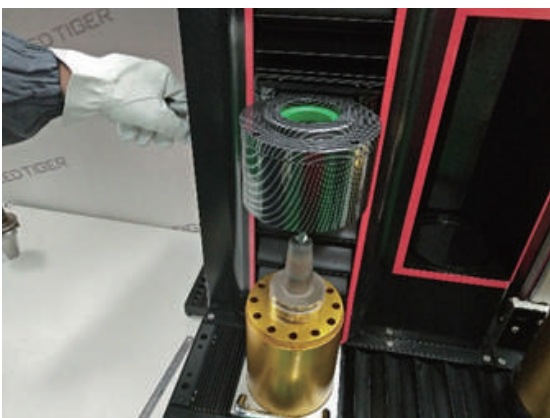


#### Step 6

Press **Shrink Fit** button, count down the time for heating.  
按下燒結鍵開始加熱。

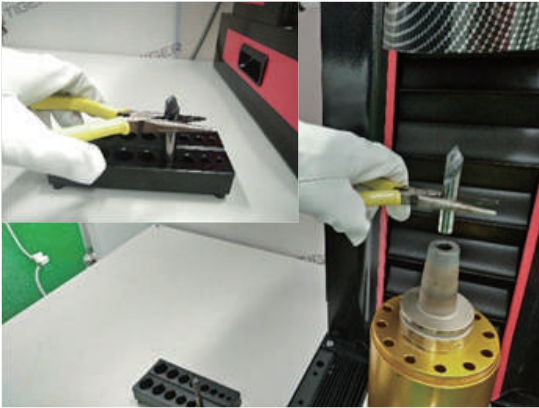
\* **Caution: The coil is NOT allowed to move during the heating.**

\* 注意：加熱中不可移動線圈



#### Step 7

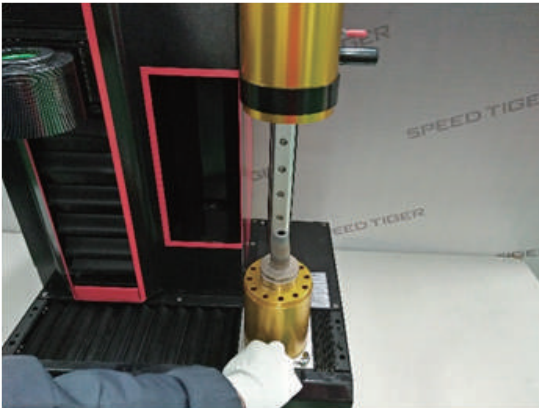
After heating, move the induction coil to the top.  
加熱完成後，將加熱線圈上移至頂端。



#### Step 8

Take out the tool by long nose plier, and place it the EZ Tray for cooling.

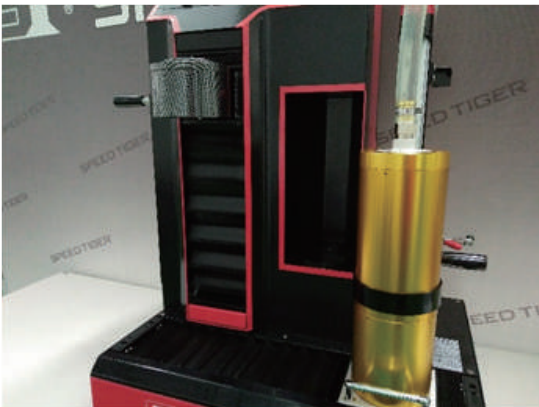
使用尖嘴鉗將刀具取出，並放置刀具放置盤上自然冷卻。



#### Step 9

Slide the base to the right side, Water Cooling Station.

將刀桿移至冷卻上蓋下方。



#### Step 10

Loosen the handle on the right side of the Shower House, and move it down.

鬆開夾持固定器，將冷卻上蓋下移至燒結基座。

\* **Caution: Please hold the handle tightly when moving the Shower House.**

\* 注意：移動過程請握好夾持固定器

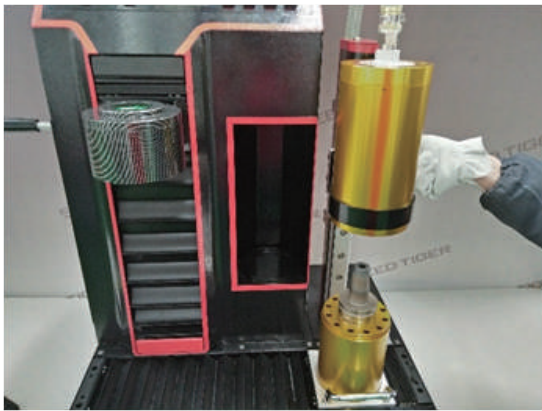


#### Step 11

Make sure the Toolholder Base and Shower House are closed, and then press **Cooling**.

密合後按下冷卻鍵進行冷卻。

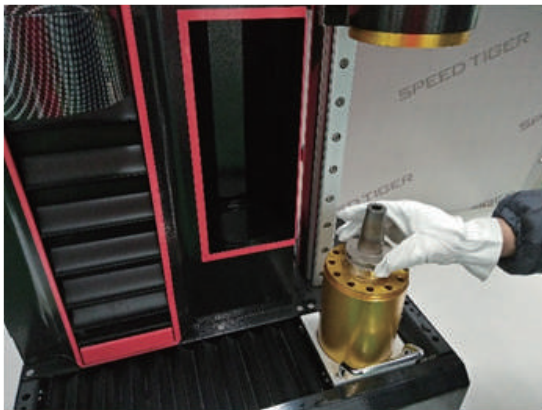




#### Step 12

After cooling, remove the Shower House to the top and place the handle onto its seat properly.

冷卻完畢後將冷卻上蓋上移至固定位置，並把夾持固定器移至固定座固定。



#### Step 13

Remove the cooling shrink fit chuck.

拿取冷卻完成之燒結刀桿。



#### Step 14

Wipe it with a dry cloth or use the air pressure gun to dry it.

使用風槍或乾布將燒結刀桿上多餘水份吹乾或擦拭乾淨。



#### Step 15

All steps have been completed.

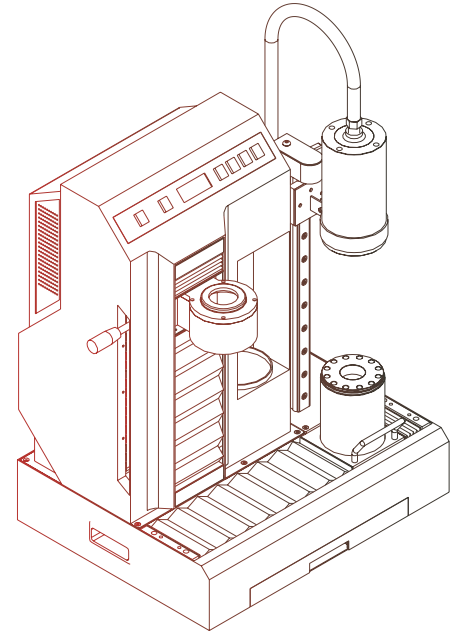
操作完成。



### Custom Mode Operation 自選模式操作說明

18

Heating second could be adjusted by needs of use,  
and automatically record the last operation setting.  
此模式可自行設定燒結時間，並記憶最後設定之時間。



#### Step 1~10

Please refer to Standard Mode (page 7~9).  
請參閱標準模式 (第 7~9 頁)。



#### Step 11

Choose the mode you need by pressing  
the Up ↑ or Down ↓ . After selecting  
**Custom mode**, press **Enter**.

按上下鍵選擇需要的模式。選擇 **Custom**  
模式後按確認。



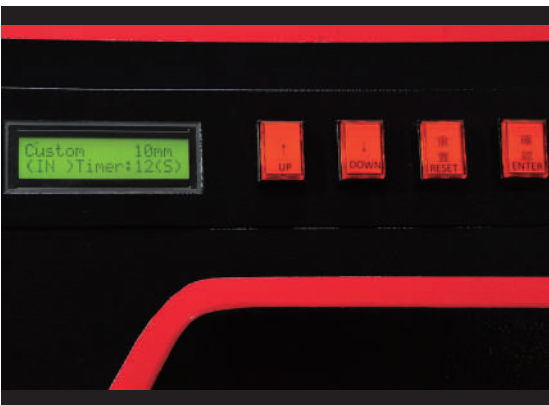
### Step 12

Search the size of tool shank by **Up** ↑ and **Down** ↓, and then press **Enter**.  
按上下鍵選擇要設定的柄徑後按確認。



### Step 13

Choose **IN** (Insert the tool) or **OUT** (Take out the tool) by **Up** ↑ or **Down** ↓, and then press **Enter**.  
按上下鍵選擇燒結或取出後按確認。



### Step 14

Increasing or Decreasing the heating Second by **Up** ↑ or **Down** ↓, and then press **Enter**.  
按上下鍵設定增減秒數後按下確認即設定完成。

Next heating operation steps will be the same with Standard Mode. Please refer to Step 16 of Standard Mode Operation. (page 11)

接下來的燒結動作跟標準模式相同，請參照標準模式操作步驟 16(第 11 頁)。

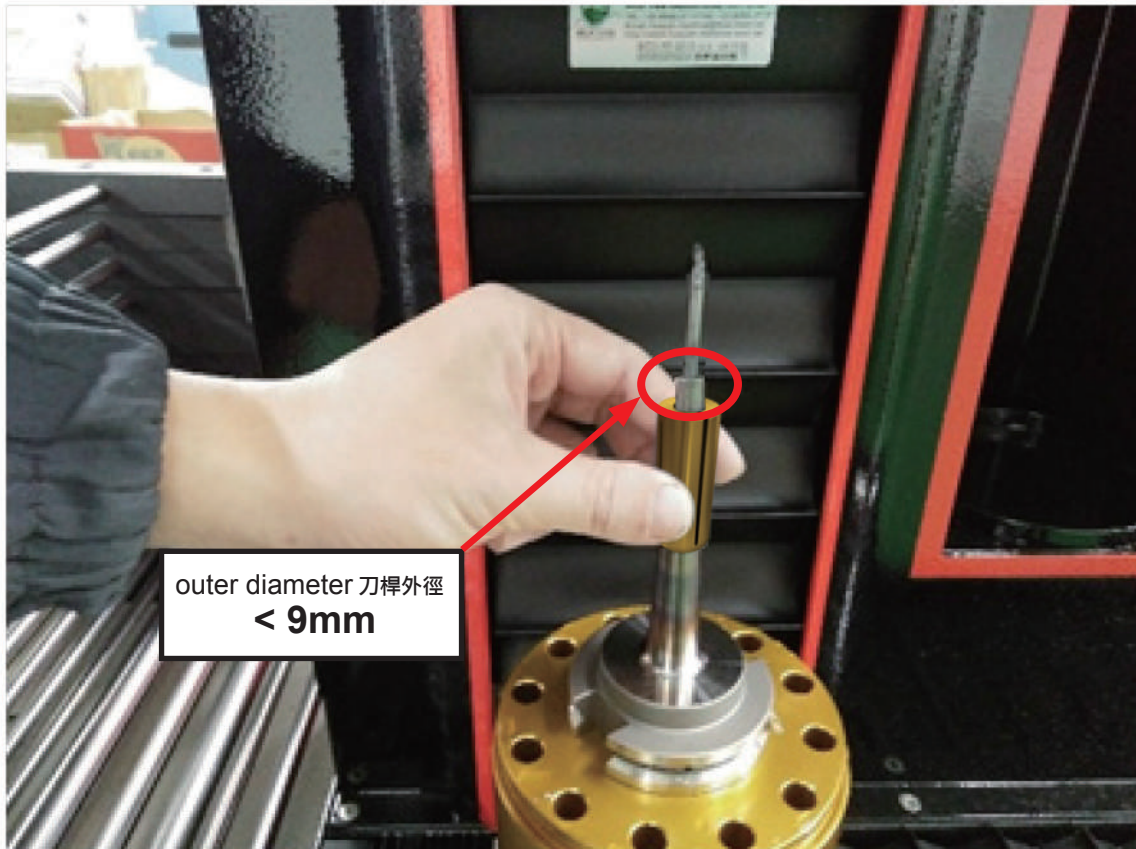


## Heating Sleeve Instruction 導熱套筒使用說明



For using Slim series holders, you might put our **Heating Sleeve** if the top outer diameter of holder is  $< 9\text{mm}$ . It could not only avoid over heating but also speed up conduction of heat.

為了使熱傳導更均勻並避免刀桿過熱，當使用細柄燒結刀桿，且刀桿先端外徑  $< 9\text{mm}$  時，建議外加導熱套筒。



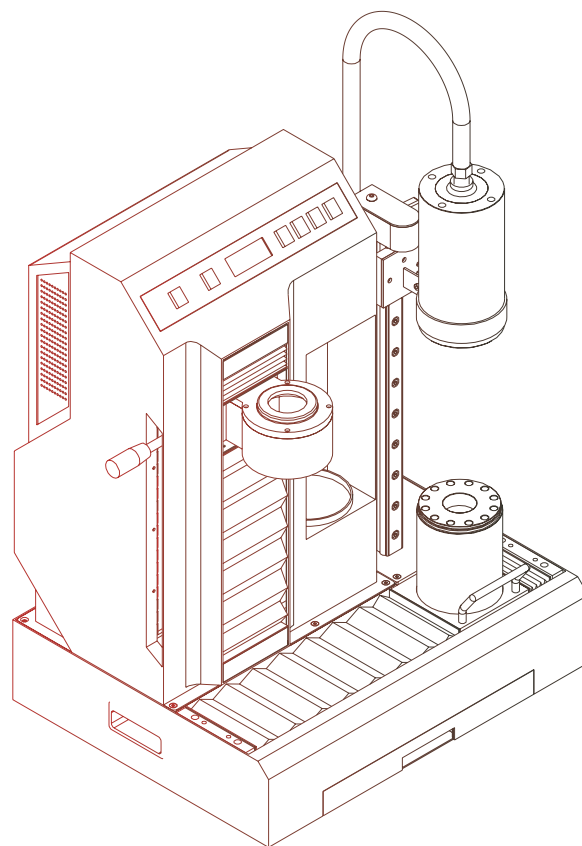


# ST 3500

ST3500 OPERATION MANUAL  
T3500 操作手冊

## Shrink Fit Program for Dual End Set 雙頭龍燒結操作說明

### Insert the tool 燒結刀具



21



#### Step 1

Prepare cutting tools and Extension Bar, and put them on the EZ Tray.

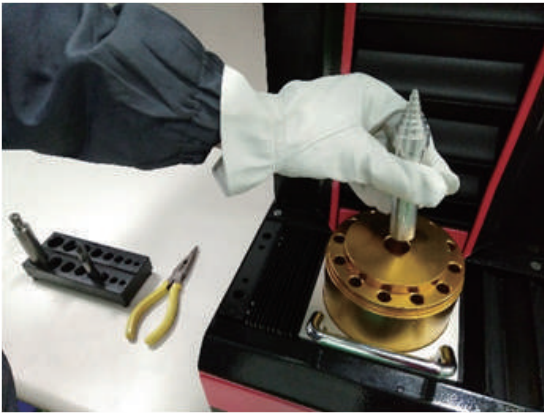
將欲連結之刀具與延長桿準備齊全並放置於  
刀具放置盤上。



#### Step 2

Put the suitable Toolholder Extension Base into the Toolholder Base.

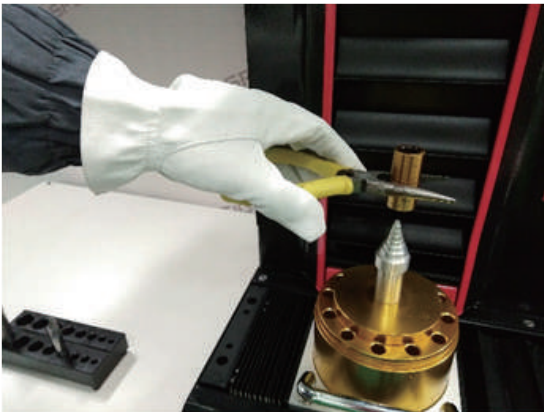
將延長桿基座放入刀桿基座。



### Step 3

Put Fixture of heating into the Toolholder Extension Base (EZ BASE S20).

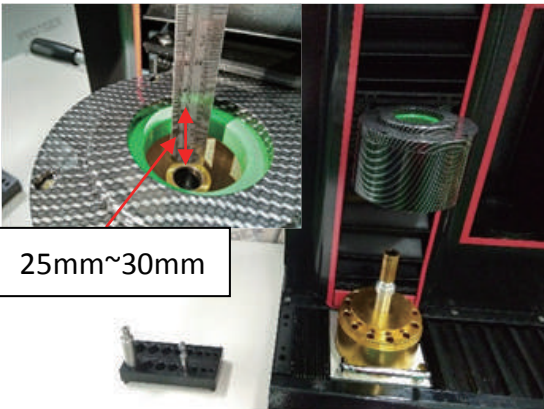
將雙頭龍加熱治具放入延長桿基座 (EZ BASE S20)。



### Step 4

Put the Adapter onto the Fixture of Heating.

將雙頭龍轉接座放置於加熱治具上準備燒結。



25mm~30mm

### Step 5

Move the induction coil to the proper position. (The distance from the top of induction coil to the top of Adapter is about 25 ~ 30mm)

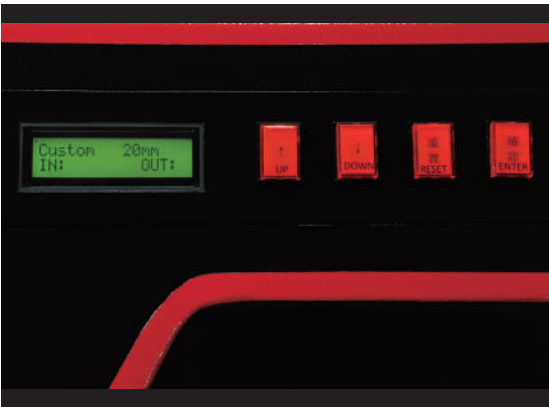
手持握把將加熱線圈移動至適合的位置 (加熱頭端部至雙頭龍轉接座上端距離約 25~30mm)。



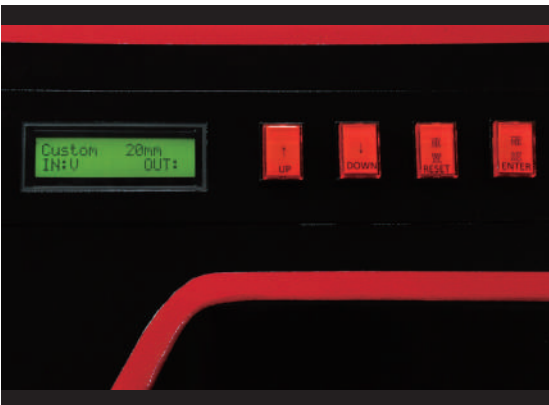
### Step 6

Select **Custom** mode, and press **Enter**.

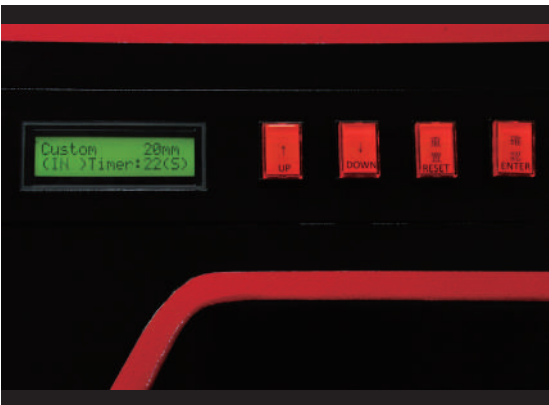
按上鍵選擇自訂模式後按確認。

**Step 7**

Search the size of tool shank by **Up** ↑ and **Down** ↓, and then press **Enter**.  
按上下鍵選擇燒結柄徑後按確認。

**Step 8**

Choose **IN** (Insert the tool) by **Up** ↑ or **Down** ↓ and press **Enter**.  
按上下鍵選擇 IN( 燒結刀具 ) 後按確認。

**Step 9**

Increasing or Decreasing the heating Second by **Up** ↑ or **Down** ↓ .  
按上下鍵設定秒數。

\* You might refer to Heating Second Reference (page 32).

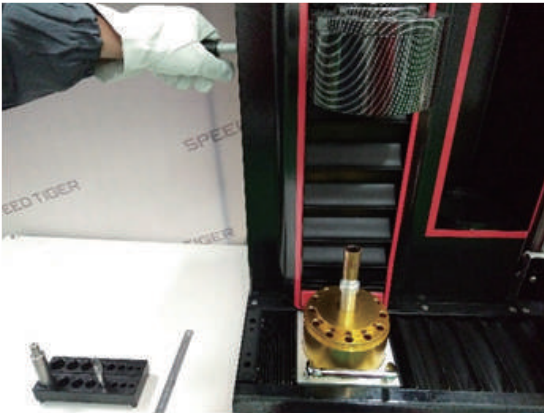
\* 可參考燒結時間建議表 ( 第 32 頁 )

**Step 10**

Press **Shrink Fit** button, count down the time for heating.  
按燒結鍵開始進行燒結。

\* **Caution: The coil is NOT allowed to move during the heating.**

\* 注意：加熱中不可移動線圈



#### Step 11

After heating, move the induction coil to the top.

加熱完成後，將加熱線圈上移至頂端。



#### Step 12

Take the Adapter by long nose plier and put onto the Extension Bar.

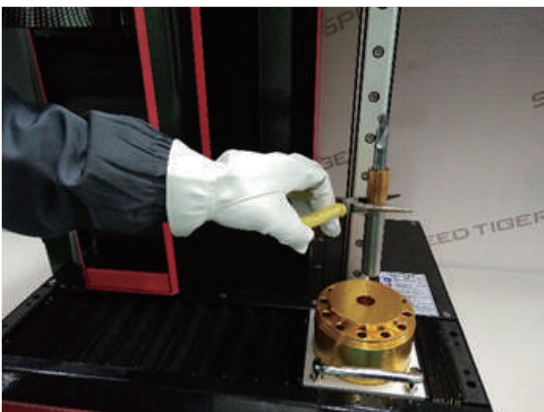
夾取雙頭龍轉接座套入延長桿。



#### Step 13

Take the cutting tool by long nose plier and put into the Adapter, and then put aside the assembled cutting tools about 2 minutes for cooling.

緊接著夾取刀具套入已連結完成的雙頭龍轉接座。

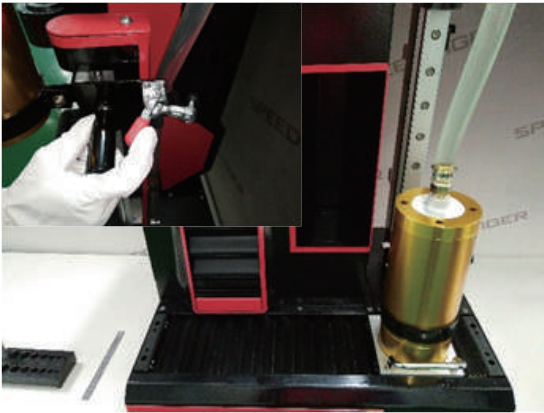


#### Step 14

Take the assembled cutting tools into the Toolholder Extension Base.

將雙頭龍轉接座的刀具置入延長桿基座。





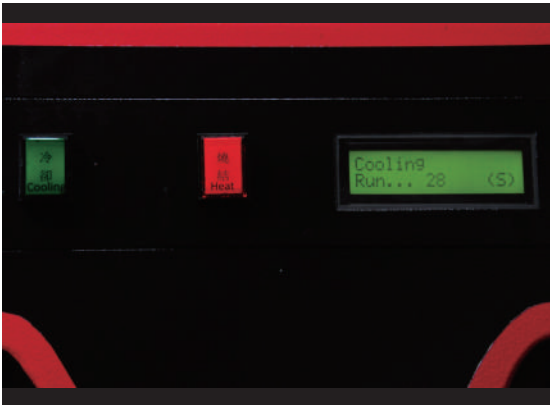
### Step 15

Loosen the handle on the right side of the Shower House, and move it down.  
鬆開夾持固定器，將冷卻上蓋下移至燒結基座。

\* **Caution:** Please hold the handle tightly when moving the Shower House.

\* 注意：移動過程請握好夾持固定器

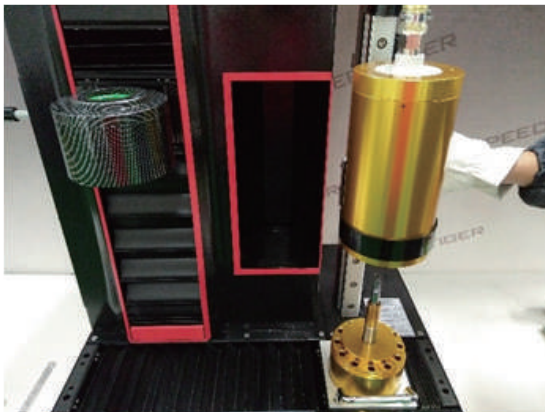
25



### Step 16

Make sure the Toolholder Base and Shower House are closed, and then press **COOLING**.

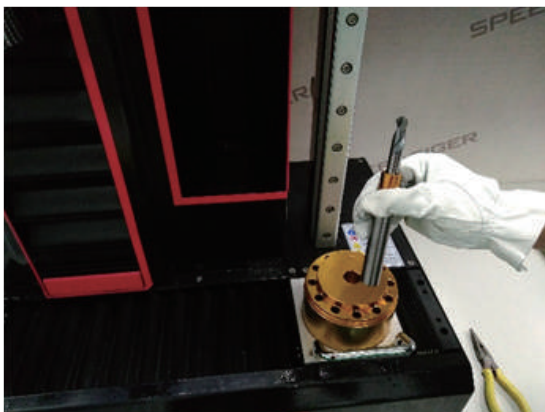
密合後按下冷卻鍵進行冷卻。



### Step 17

After cooling, remove the Shower House to the top and place the handle onto its seat properly.

冷卻完畢後將冷卻上蓋上移至固定位置，並把夾持固定器移至固定座固定。



### Step 18

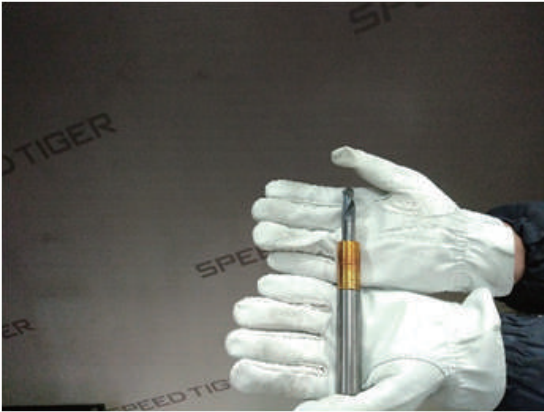
Remove the cooling Extension Cutting tool.  
取出冷卻完畢的連結刀具。



#### Step 19

Wipe it with a dry cloth or use the air pressure gun to dry it.

將刀具上多餘的水份用風槍吹乾。



#### Step 20

All steps have been completed, and you may use it now.

燒結完成。

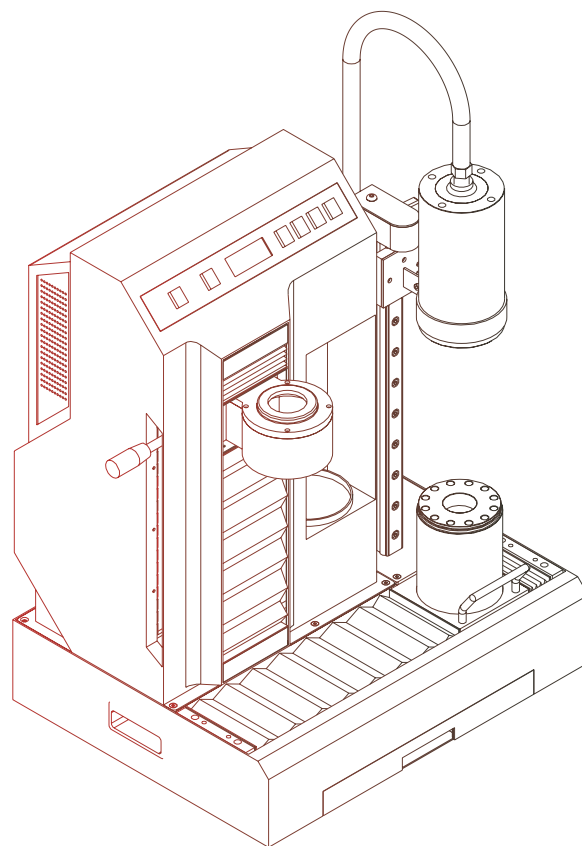


# ST 3500

ST3500 OPERATION MANUAL  
T3500 操作手冊

## Shrink Fit Program for Dual End Set 雙頭龍燒結操作說明

### Take out the tool 取出刀具



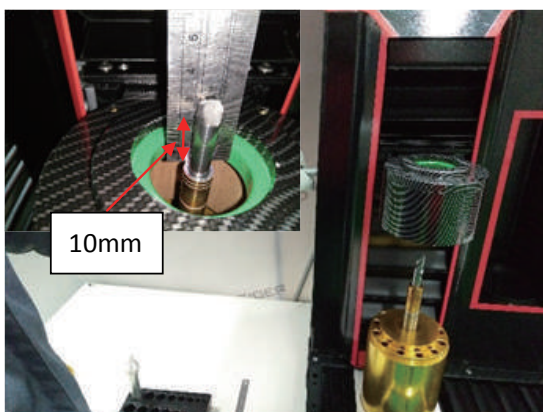
27



#### Step 1

Put the assembled cutting tools into the Toolholder Base.

將組裝好的雙頭龍刀具放置延長桿基座。



#### Step 2

Move the induction coil to the proper position. (The distance from the top of induction coil to the top of Adapter is about 10mm)

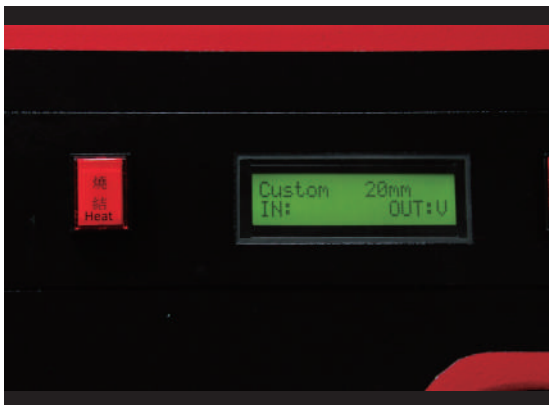
手持握把下移線圈至適當位置（加熱頭端部至雙頭龍轉接座上端距離約 10mm）。



### Step 3

Select **Custom** mode, and press **Enter**. Search the size of tool shank by **Up** ↑ and **Down** ↓, and then press **Enter**.

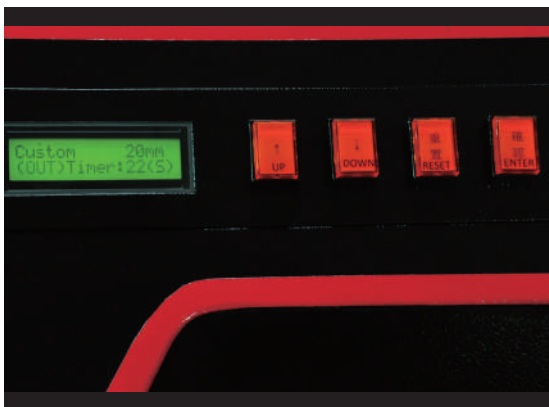
按上鍵選擇自訂模式後按確認。按上下鍵選擇燒結柄徑後按確認。



### Step 4

Choose **OUT** (Take out the tool) by **Up** ↑ or **Down** ↓ and press **Enter**.

按上下鍵選擇 OUT( 取出刀具 ) 後按確認。



### Step 5

Increasing or Decreasing the heating Second by **Up** ↑ or **Down** ↓.

按上下鍵設定秒數。

\* You might refer to Heating Second Reference (Page32 ).

\* 可參考燒結時間建議表 ( 第 32 頁 )



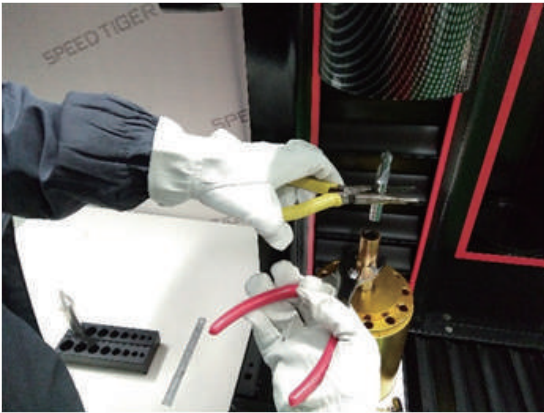
### Step 6

Press **Shrink Fit** button, count down the time for heating.

按燒結鍵開始進行燒結。

\* **Caution: The coil is NOT allowed to move during the heating.**

\* 注意：加熱中不可移動線圈



#### Step 7

After heating, move the induction coil to the top. Hold the Adapter by Slip Joint plier, and take out the tool by long nose plier.

燒結完後手持握把上移線圈，固定住雙頭龍轉接座，將刀具先行取出。



#### Step 8

Place the taken cutting tool on the EZ Tray for cooling.

取出刀具後先靜置於刀具放置盤上自然冷卻。



#### Step 9

In the meantime, hold the Extension Bar by Slip Joint plier, and take out Adapter by long nose plier.

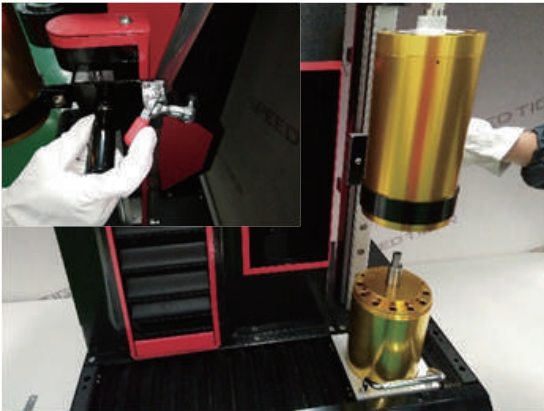
待刀具冷卻的同時，一邊固定住延長桿並取出雙頭龍轉接座。



#### Step 10

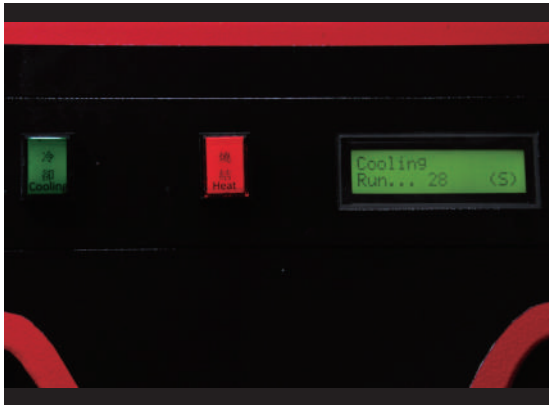
Place the taken Adapter on the EZ Tray for cooling.

將取出的雙頭龍轉接座靜置於刀具放置盤自然冷卻。



#### Step 11

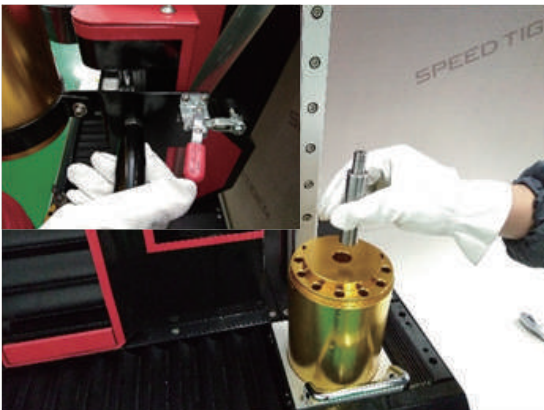
Slide the base with Extension Bar to the right side, Water Cooling Station. Loosen the handle on the right side of the Shower House, and move it down.  
將延長桿移至冷卻上蓋下方並鬆開夾持器蓋上。



#### Step 12

Make sure the Toolholder Base and Shower House are closed, and then press **Cooling**.

密合後按下冷卻鍵進行冷卻。



#### Step 13

After cooling, remove the Shower House to the top and place the handle onto its seat properly. Remove the cooling Extension Bar.

冷卻完畢後將冷卻上蓋上移至固定位置，並取出延長桿。



#### Step 14

Wipe the Extension Bar with a dry cloth or use the air pressure gun to dry it.

將延長桿上多餘的水份用風槍吹乾。

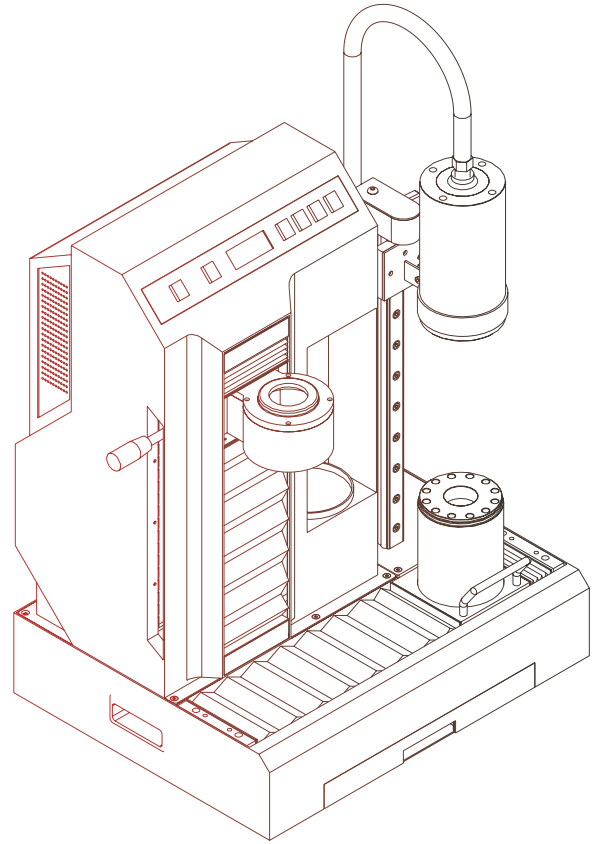


#### Step 15

All steps have been completed.  
取出完成。



### Heating Second Reference 燒結時間參考表



(Unit 單位 : S 秒)

Tool Diameter 刀具柄徑 (mm)	STANDARD Holder 標準刀桿		SLIM Holder 細柄刀桿		ADAPTER 雙頭龍	
	Insert the tool 放入刀具 (IN)	Take out the tool 取出刀具 (OUT)	Insert the tool 放入刀具 (IN)	Take out the tool 取出刀具 (OUT)	Insert the tool 放入刀具 (IN)	Take out the tool 取出刀具 (OUT)
D3	18	20	20 (use Heating Sleeve) ( 搭配導熱套筒 )	25 (use Heating Sleeve) ( 搭配導熱套筒 )		
D4	24	28	12 (use Heating Sleeve) ( 搭配導熱套筒 )	18 (use Heating Sleeve) ( 搭配導熱套筒 )		
D5	22	35	12	20		
D6	22	35	12	20		
D8	20	26	14	20		
D10	22	30	20	25	18	26
D12	20	32	20	25	22	32
D16	18	32			22	34
D20	20	38			22	40
D25	25	70			30	45
D32	25	70			30	50

This setting is based on YAMAKEN's actual test results.  
以上秒數設定是依據山謙 (YAMAKEN) 品牌刀桿實際測試所得

Above figure is for reference only. The heating time could be adjusted by actual situation.  
以上秒數為參考數值，實際時間請視現場情況調整

V1.1