

vhf S2 model 乾式研磨機操作手冊

vhf S2 model

■ 五軸八片-自動換片式車削機

可設定八片料塊片匣進行車削程序，藉由軟、硬體搭配可自動更換料塊，以提升車削效率。



- High-production capacity with out the large footprint – approx. 692 x 445 x 540 mm (27 x 18 x 21 inches) and approximately 95 kg (209 pounds)
- Capable of machining prosthetics from a wide array of materials wax, PMMA, zirconia.
- Equipped with an automatic 16-tool changer
- Includes 80disc stacker for multiple material discs as well as compatibility with the DentaSwiss multi-block adapter.

硬體設置

Hardware setting

■ S2 model運作硬體配置

車削機運作需搭配空壓機、吸塵器與筆電才能順利運作。



筆電 操控硬體設備



乾燥機 提供研磨機乾燥氣體(6~8bar)



吸塵器 清除車削粉塵

Hardware setting

■ S2 model管線安裝方式

CNC後方主要安裝管線會有CNC電源線、空壓管線、除塵管線、除塵控制線、電腦控制線。



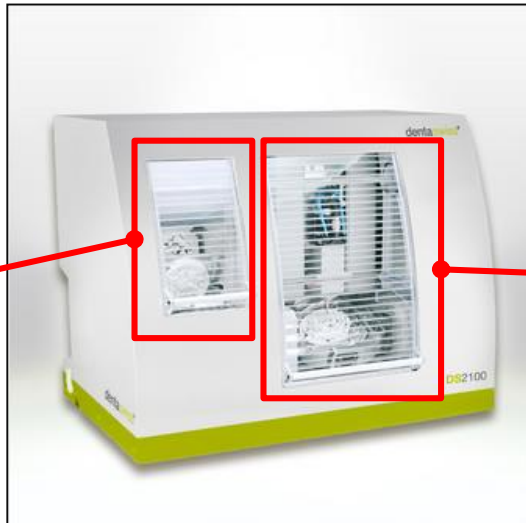
Hardware setting

■ S2 model硬體部件-車削室

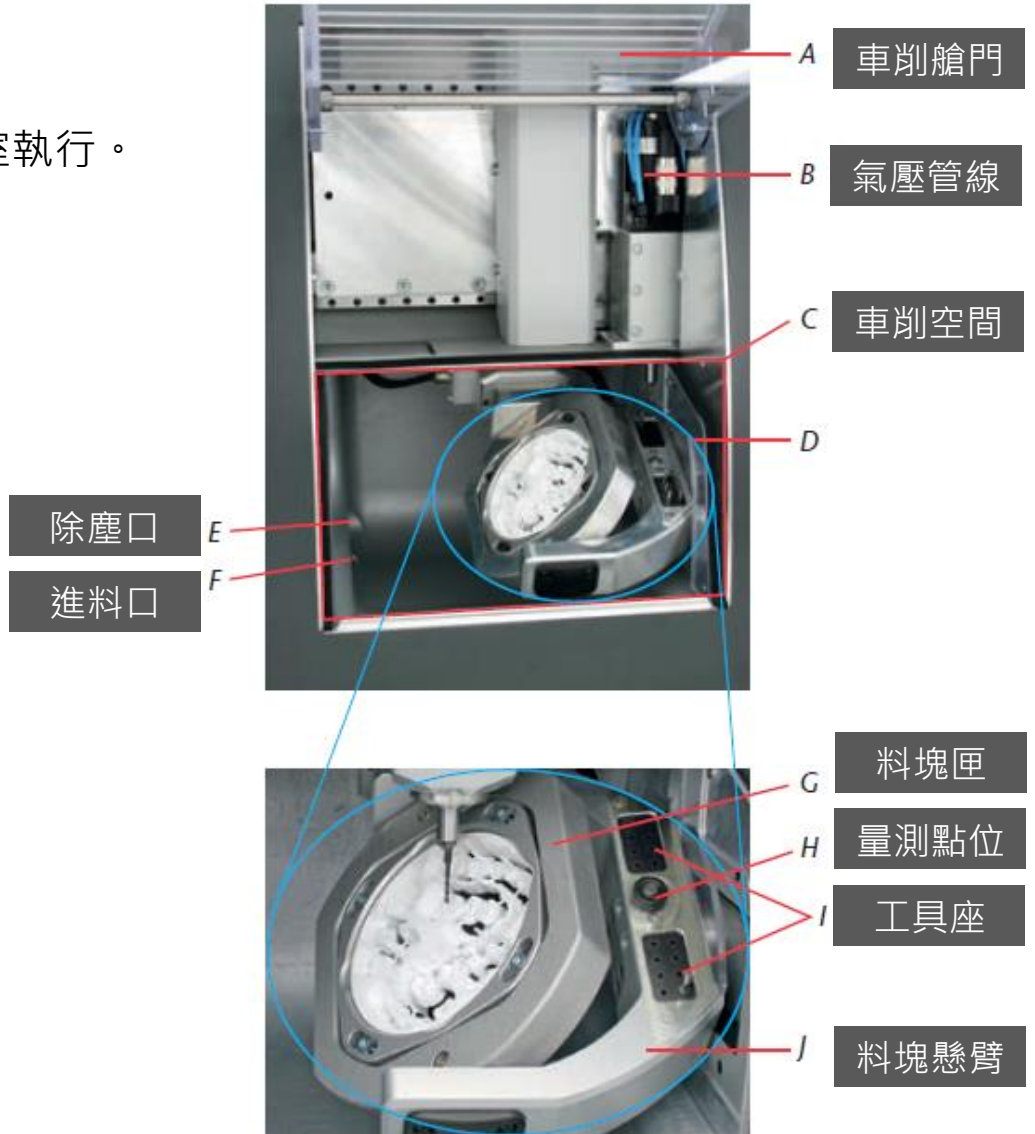
料塊鎖上料塊匣後在安置於料塊室，經排定車削程序後送至車削室執行。



料塊室



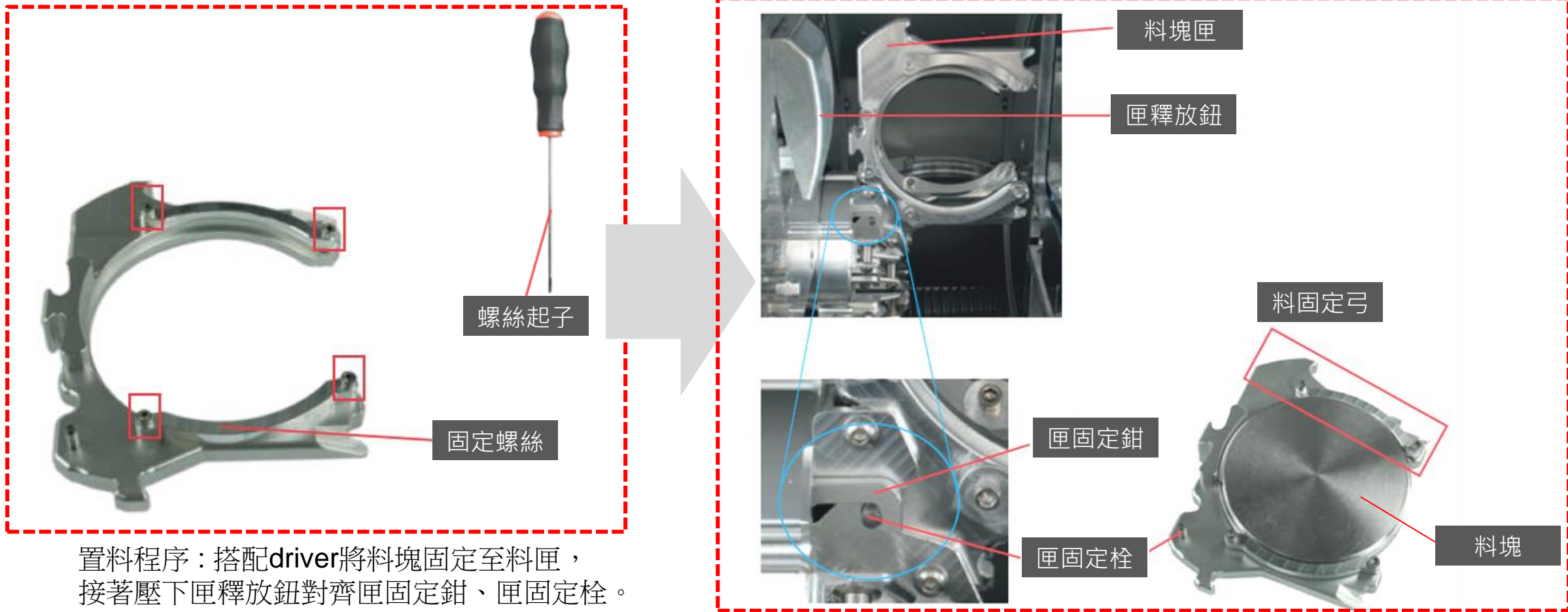
車削室



Hardware setting

■ S2 model硬體部件-料塊室

將料塊鎖上料塊匣後，可安裝於料塊室。



Tools setting

- 車削工具組(刀具)設定

刀具共分為三種尺寸，直徑2.0、1.0、0.6mm，長度為40mm。



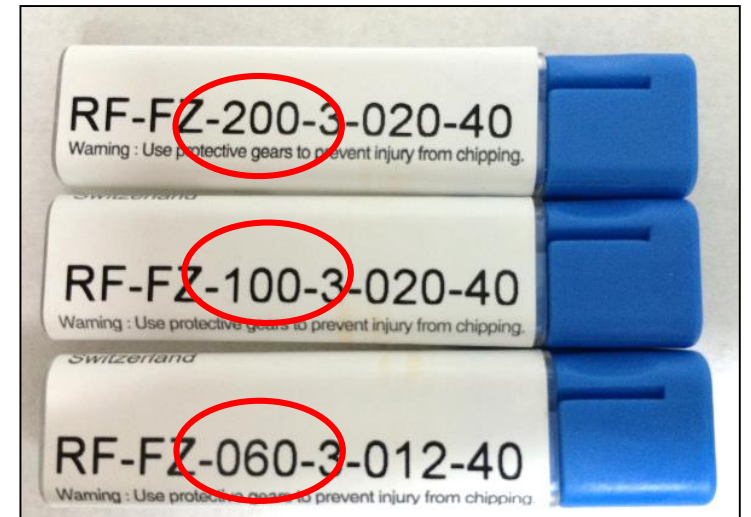
2.0 mm



1.0 mm



0.6 mm



提示：建議每車削80~100進行工具汰換，可提升車削精度並降低CNC的主軸耗損。

Tools setting

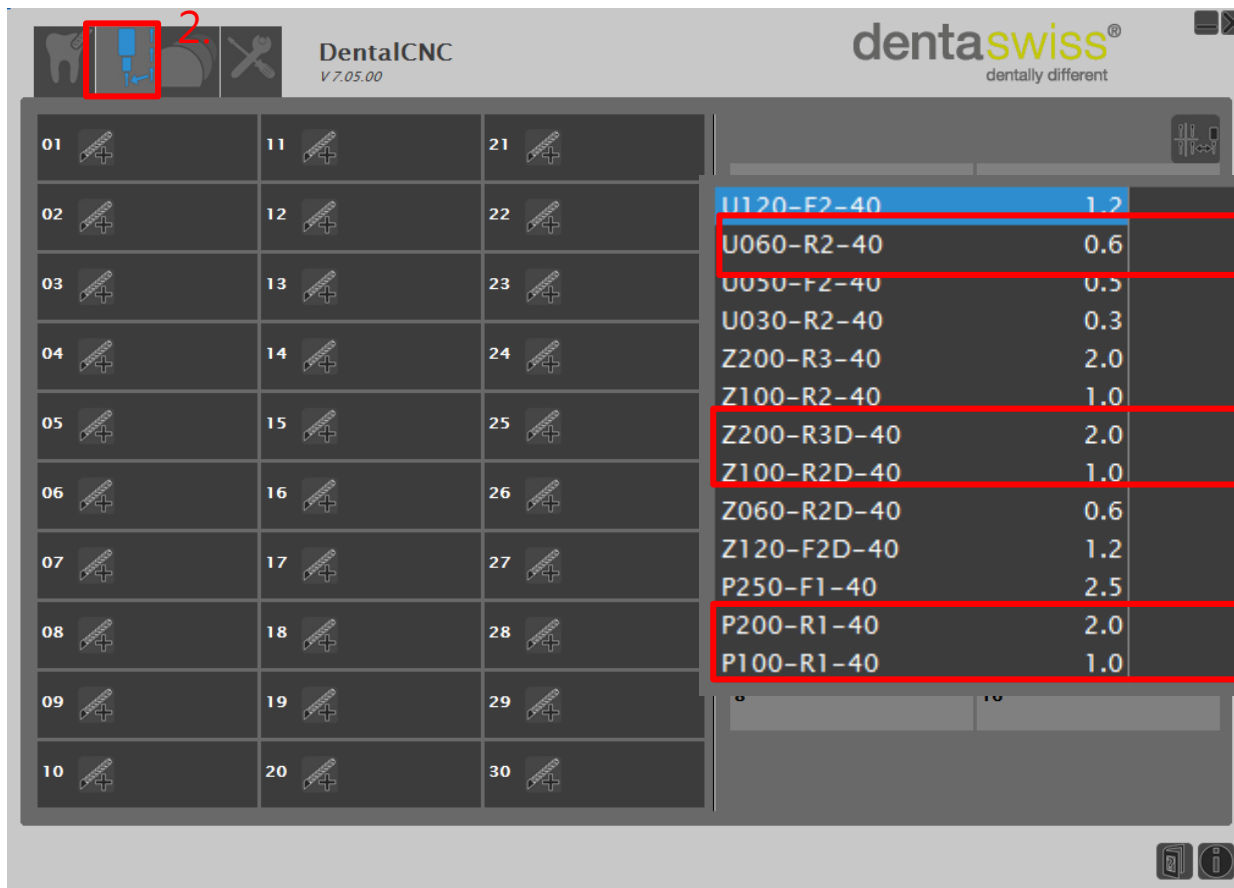
■ 車削工具組(刀具)設定

S2 model工具座共有16個位置供設定，需經由軟體設定告知CNC正確的刀具位置。



開啟軟體

1.



3. 點選加號

4. 選擇刀具

提示：依照車削的材料選擇刀具，Z-氧化鋯用、P-WAX、PMMA用。

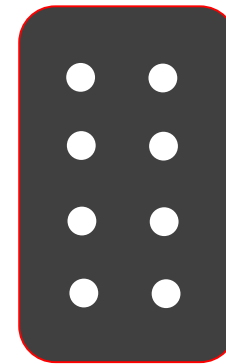
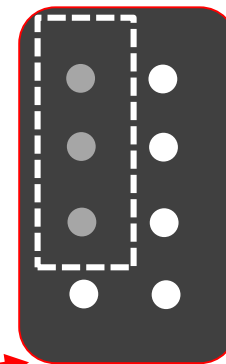
Tools setting

■ 車削工具組(刀具)設定

將挑選的刀具以滑鼠左鍵拖曳至刀具座相對應位置。



提示：建議由上至下依序為2.0、1.0、0.6 mm刀具



軟體設置

Software setting

- 軟體



操作軟體:

Dental CAM-料塊紀錄與排放車削物件。

Dental CNC -運算車削路徑與硬體遙控。



Software setting

■ 操作面板簡介-Dental CAM

主要功能為管理料塊紀錄、排放車削檔案。

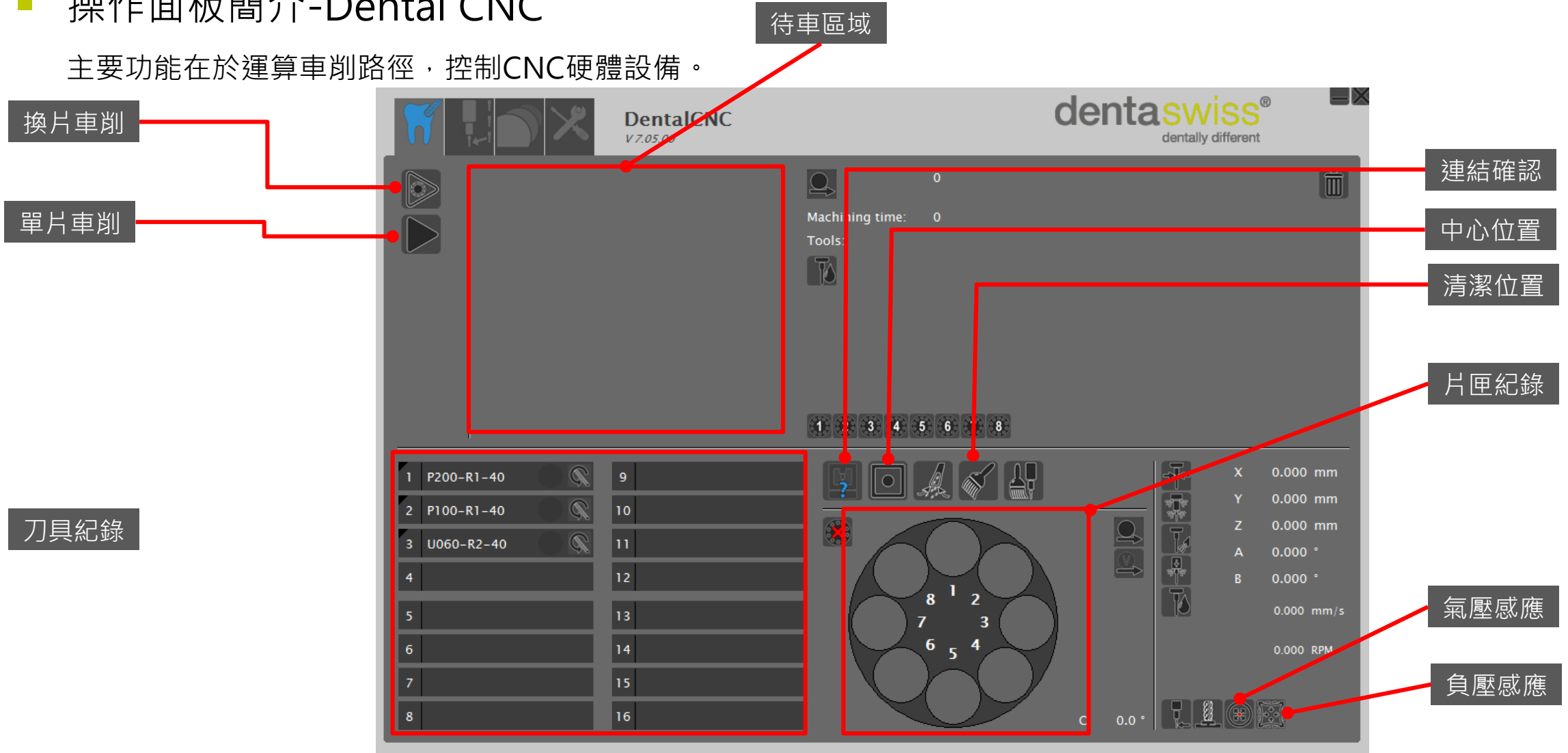
The screenshot shows the DentalCAM V7.05.00 software interface. The top bar includes the 'denta^{swiss}®' logo and the text 'dentally different'. The main interface is divided into several sections:

- Top Bar:** Contains navigation icons (home, search, etc.) and the software title 'DentalCAM V7.05.00'.
- Left Panel:** Contains three main sections:
 - 排放流程 (Emission Process):** A row of icons representing different dental procedures.
 - 新增料塊 (Add Blank):** A form for creating a new blank with fields for 'Blank type' (Zirconia -D), 'Dimensions' (Ø 98.5), 'Height' (10.0), 'Scaling' (1.250), 'Lot number', 'Comment', 'No. of colored layers' (1), and 'Tool type' (Milling tools).
 - 紀錄篩選 (Record Filter):** A filter section with fields for 'Blank type', 'Height', 'ID', 'Lot number', 'Comment', and a 'Calculable jobs' checkbox.
- Blank archive:** A central area displaying a list of blanks. The first entry is '1 Wax -D' with dimensions 'Ø 98.5' and '10.0', and a '1.000' value below it. Action icons (refresh, search, delete) are visible on the right.
- Right Panel:** A dark grey area with the label '料塊紀錄 (Blank Record)'.

Software setting

■ 操作面板簡介-Dental CNC

主要功能在於運算車削路徑，控制CNC硬體設備。



車削流程

Software setting

■ 料塊選擇-Dental CAM

依照車削檔案建立、選擇新舊料塊。示範選項為新建16mm PMMA disc。

The screenshot shows the DentalCAM V7.05.00 interface. The 'New blank' panel is active, showing fields for Blank type (PMMA -D), Dimensions (Ø 98.5), Height (16.0), and Scaling (1.000). A 'Blank archive' table lists existing blanks. Callouts 1-6 describe the workflow: 1. Material selection (Zirconia, translucent -D), 2. Dimension selection (16.0), 3. Scaling (1.000), 4. Naming the blank, 5. Confirming the new blank, and 6. Calling in the blank. A 'Scaling' callout box shows 'Scaling 1.000' and '收縮比例'.

1. 材料選擇

2. 尺寸選擇

3. Scaling 1.000
收縮比例

4. 料塊取名

5. 確認新增

6. 叫入料塊

刪除料塊

ID	Blank type	Dimensions	Height	Scaling
3	PMMA -D	Ø 98.5	16.0	1.000
2	Zirconia, translucent -D	Ø 98.5	10.0	1.250
1	PMMA -D	Ø 98.5	10.0	1.000
1	Wax -D	Ø 98.5	10.0	1.000

Software setting

■ 導入車削檔案-Dental CAM

將設計完成的假牙檔案排放至料塊進行車削。示範為全形態牙冠最精緻車削。

The screenshot shows the DentalCAM V7.05.00 interface. The steps are as follows:

- 1. 檔案位置**: The file location is set to 'g:\Coping' in the file browser.
- 2. 選擇檔案**: A list of files is shown, with 'full anatomical 1.stl' selected.
- 3. 剖面檢視**: A 3D model of a crown is shown in the preview window.
- 4. 類型選擇**: The 'Fully anatomical crown/bridge' option is selected in the 'Crown/bridge (less detailed)' menu.
- 5. 精緻等級**: The 'fully anatomical crown/bridge' option is selected, indicating the highest level of detail.
- 6. 拋入待車**: The 'Stereolithografie (*.stl)' filter is selected.
- 7. 待車總覽**: The '3Shape (*.cam)' filter is selected.
- 8. 確定車削**: The 'Milling' icon is clicked to start the process.

最精細: 三星, 最快速: 一星

Software setting

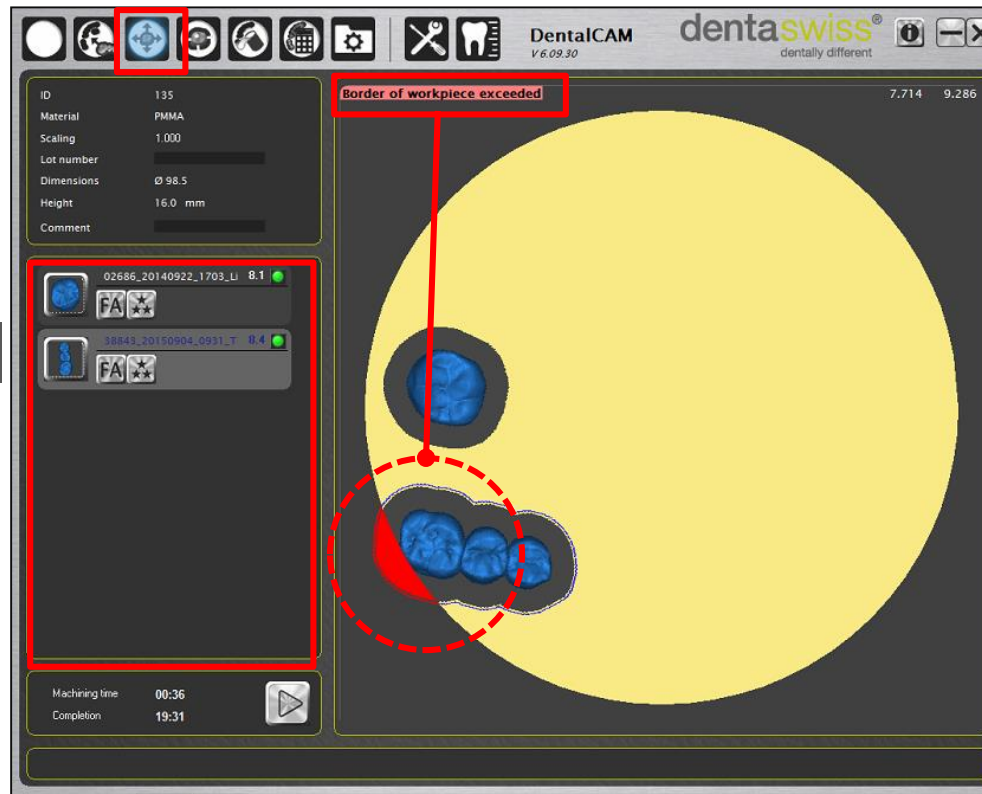
■ 車削檔案排放-Dental CAM

將車削檔案排放至正確位置。

Border of workpiece exceeded

表示檔案位置不正確

待車區域



位置正確

提示：對牙齒點選滑鼠左鍵可拖曳位置，滾輪可進行翻轉。

Software setting

■ 車削檔案排放-Dental CAM

將正確位置的檔案放置支持桿(holder)以順利進行車削。

藉由滑鼠左鍵
進行holder植立與刪除

1. 點選右鍵

2. 左鍵放置

3. 剖面檢視
滾輪可修改holder高低

4. 排放完成

刪除功能

植立功能

No.	Z.1	Z.2
1	-1.8	-1.8
2	0.6	0.6
3	0.7	0.7
4	0.6	0.6
5	0.7	0.7
6	0.4	0.4
7	1.2	1.2
8	-0.9	-0.9

Machining time 00:36
Completion 19:32

提示：對牙齒點選滑鼠右鍵開啟放置holder介面，再搭配左鍵植立，可參考。

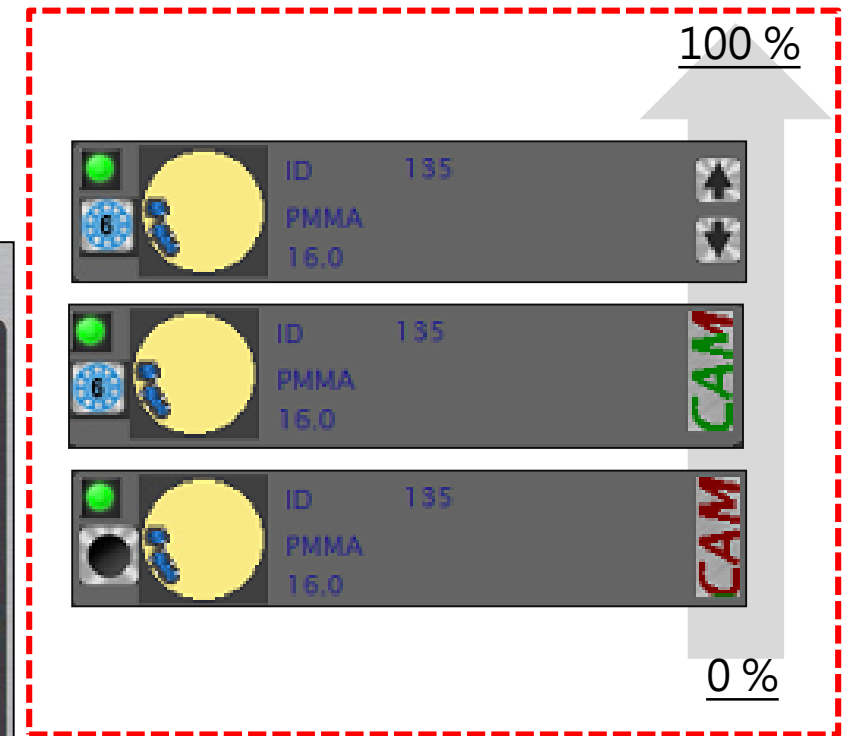
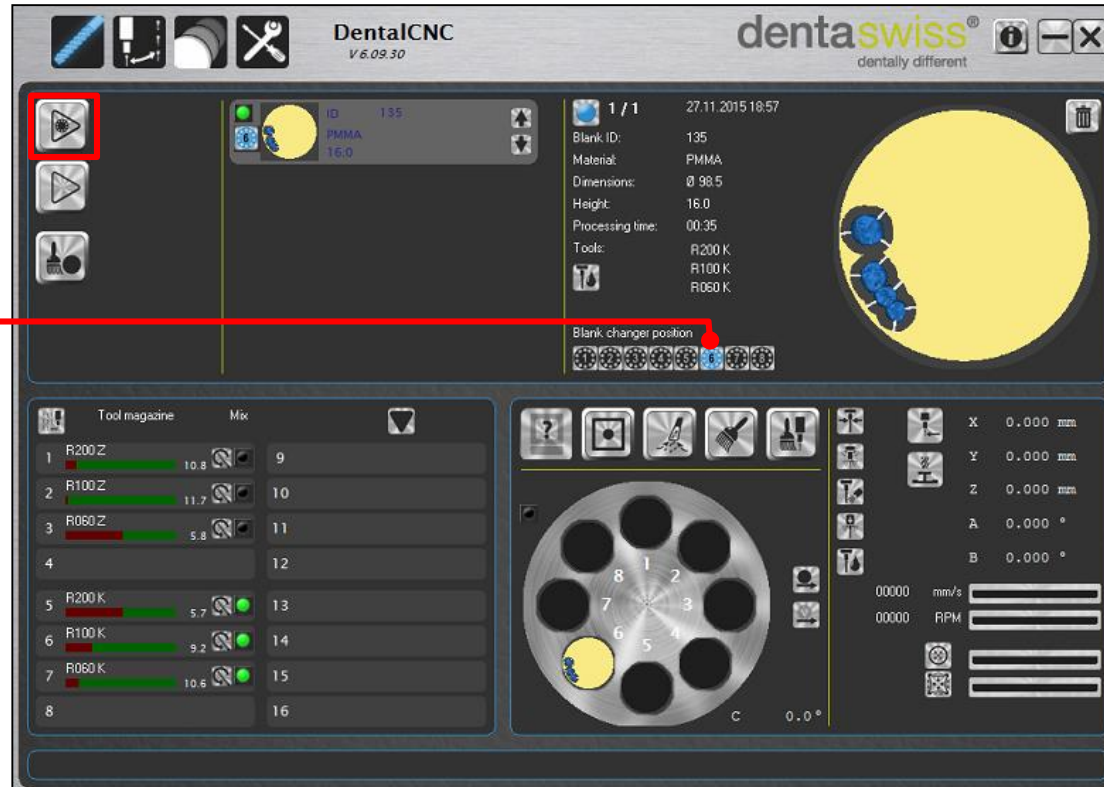
Software setting

■ 運算車削路徑-Dental CNC

運算車削路徑並且決定料塊匣，執行車削動作。

1. 運算提示

2.



運算提示

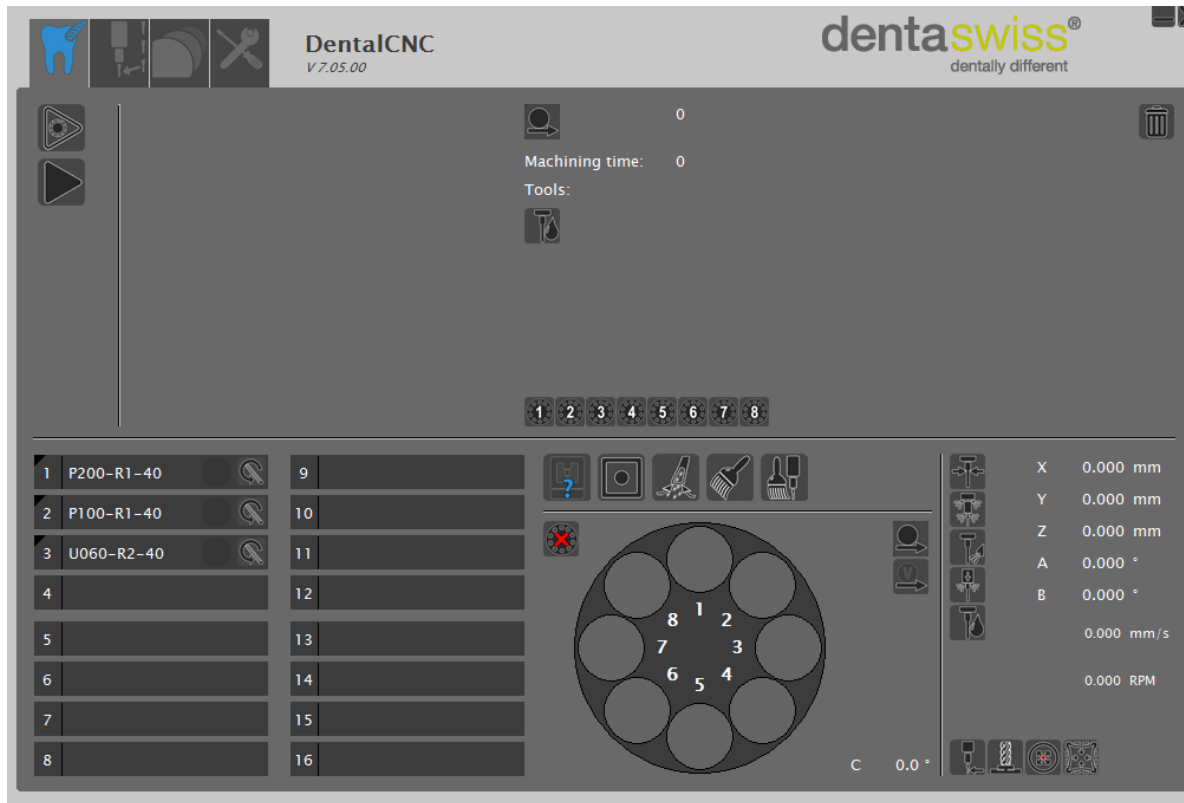
提示：建議車削路徑完全運算完成(CAM由下往上完全變成綠色)，後值行車削流程。

清潔程序

Cleaning methods

■ CNC夾頭清潔

在Dental CNC介面下進行，需準備好清潔工具組。

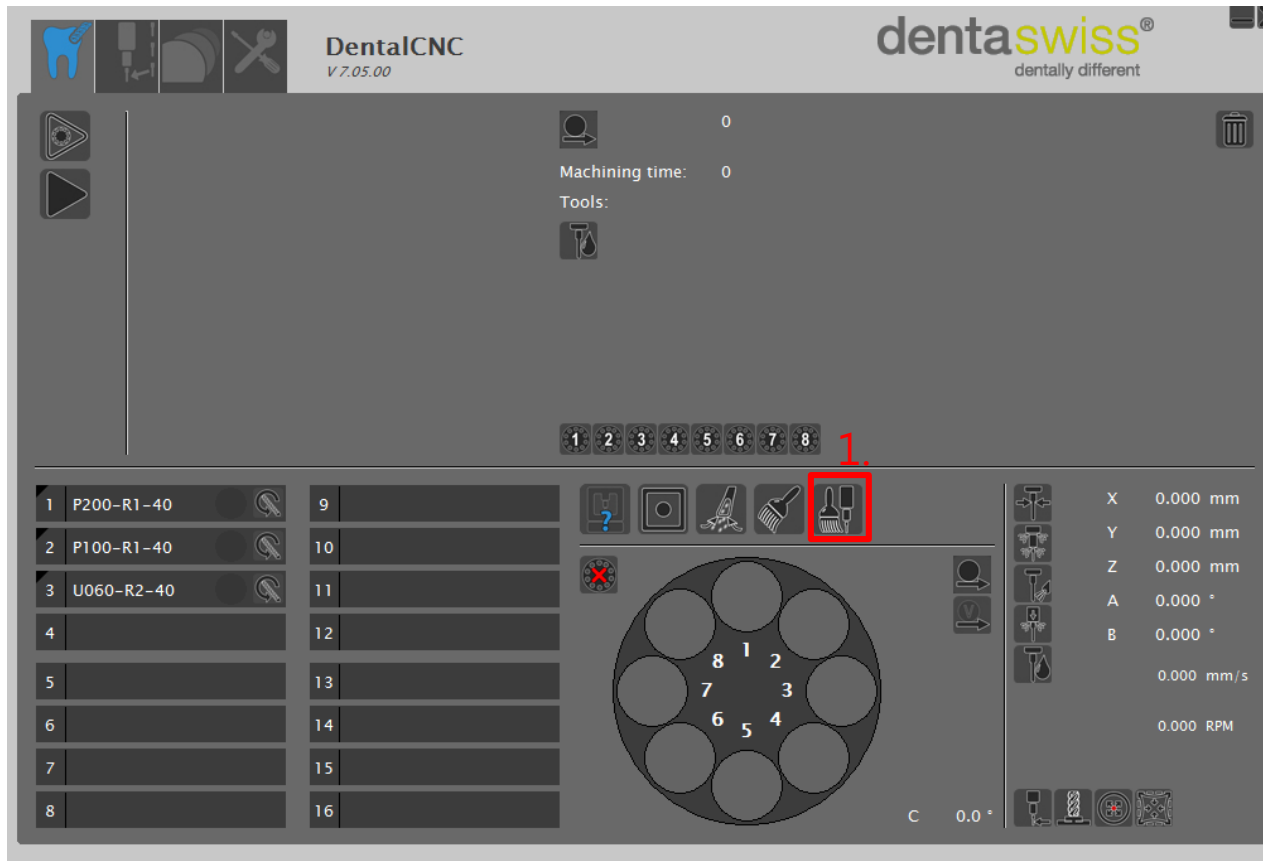


提示：建議至少每週進行一次。

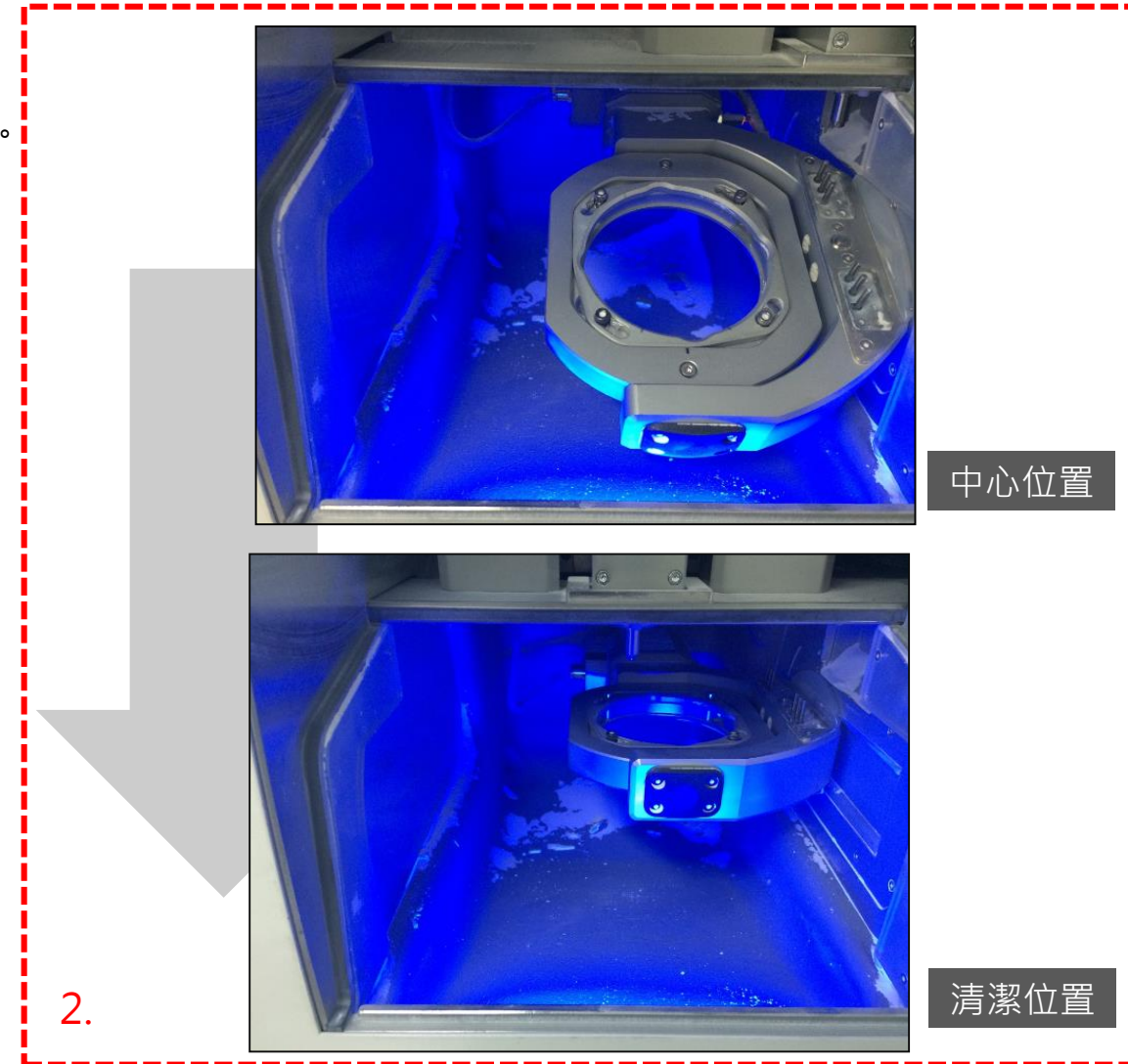
Cleaning methods

■ CNC夾頭清潔

點選夾頭清潔位選項，給予CNC移動料塊固定懸臂的操作指令。



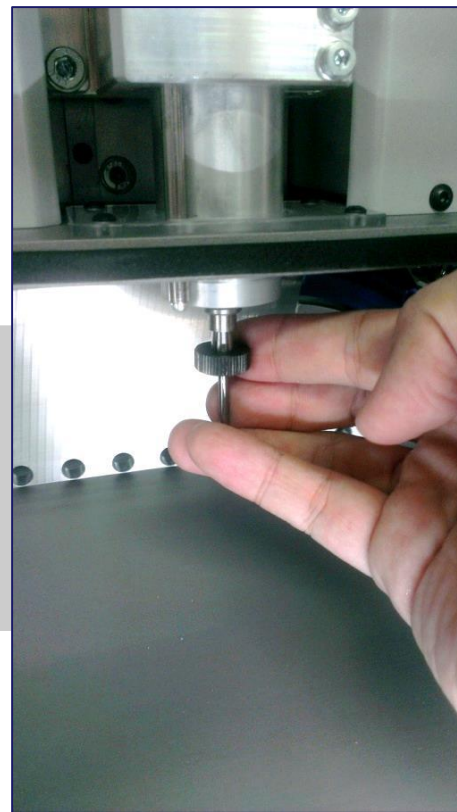
提示：請先關閉車削室艙門才進行清潔誠序，移動料塊固定懸臂。



Cleaning methods

■ CNC夾頭清潔

搭配卸除螺帽、卸除工具，進行卸除夾頭的動作。



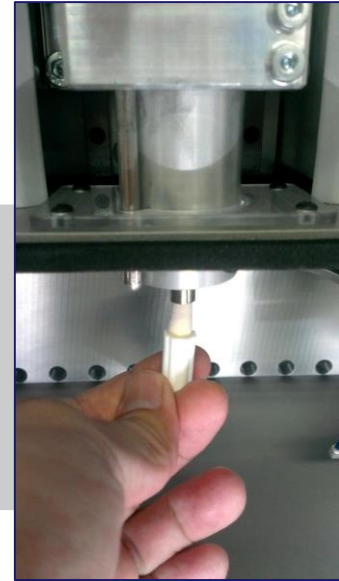
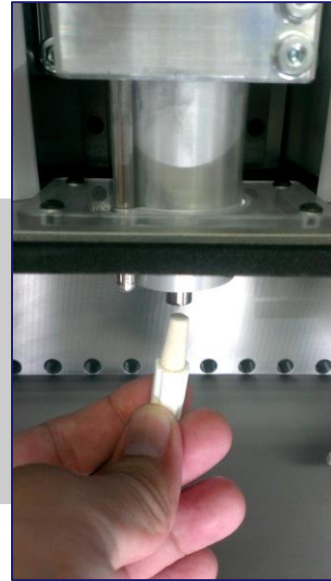
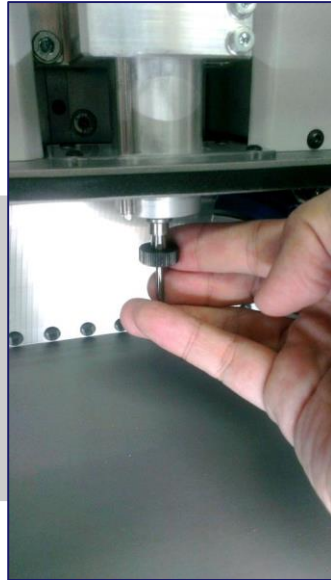
車削夾頭

提示：卸除過程請小心進行，以逆時針旋轉。

Cleaning methods

■ CNC夾頭清潔

搭配卸除螺帽、卸除工具，進行卸除夾頭的動作。並以粗清潔刷進行軸心內部清潔。



1.

夾頭卸除



車削夾頭



2.

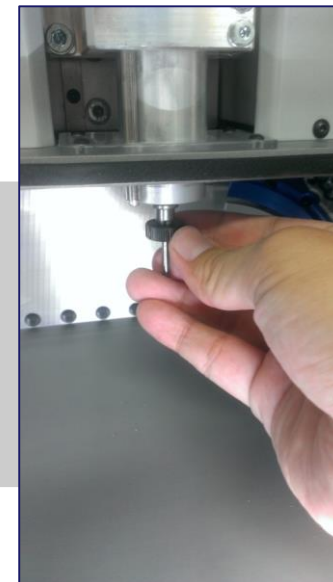
軸心清潔



Cleaning methods

■ CNC夾頭清潔

使用細清潔刷將夾頭內部來回清潔。



1.

夾頭清潔



2.

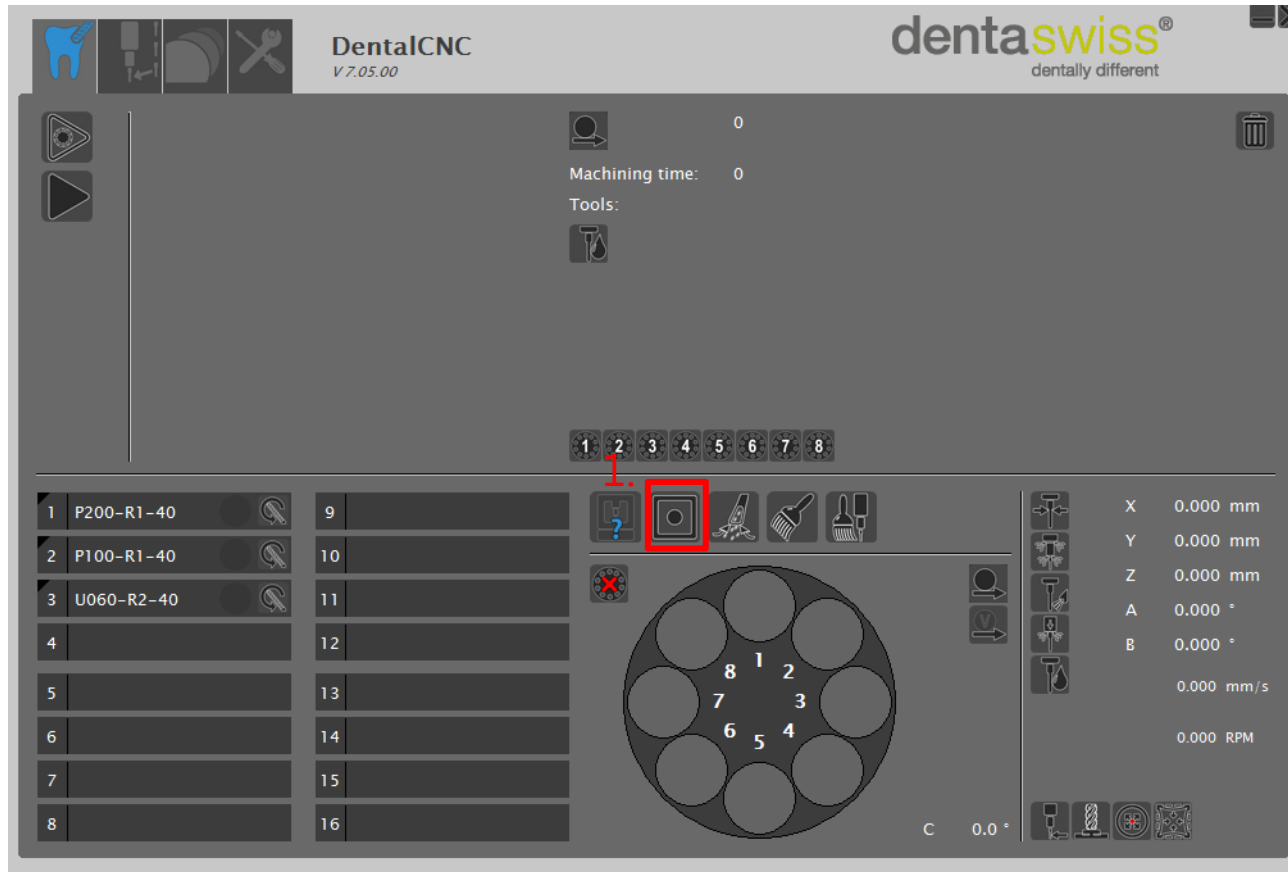
夾頭歸位



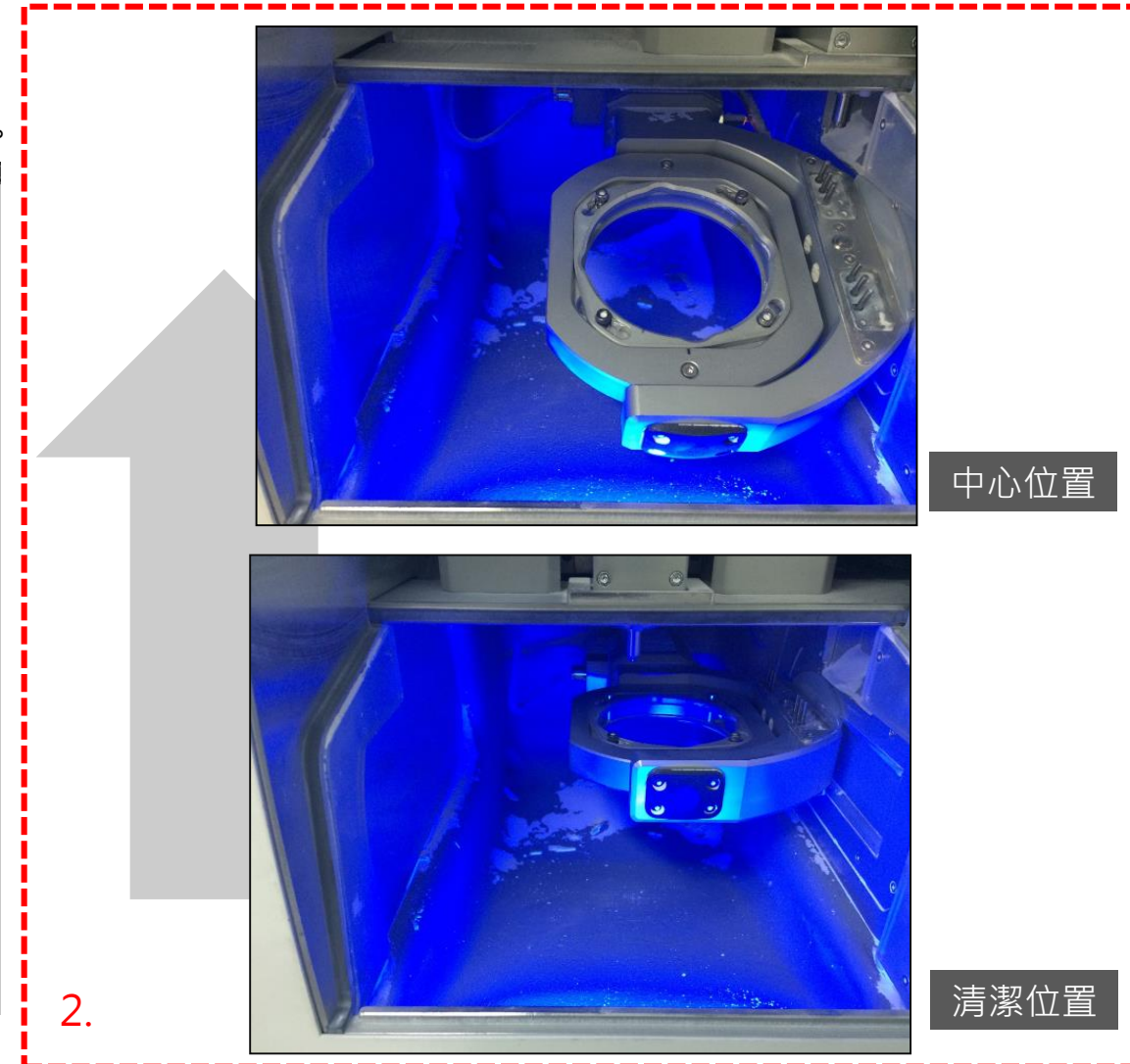
Cleaning methods

■ CNC夾頭清潔

夾頭清潔程序完成後，給予料塊固定懸臂回歸中心位置的指令。



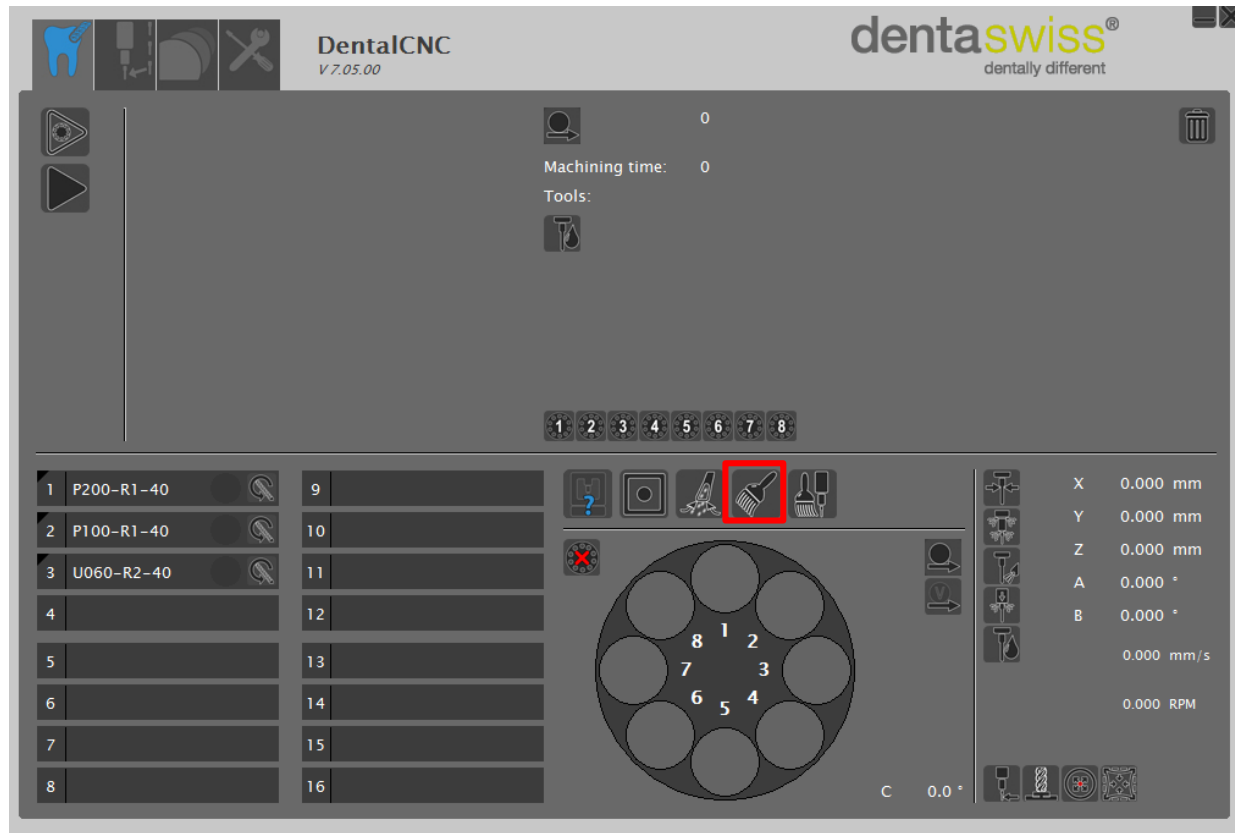
提示：清潔完成後務必回歸中心位，以避免車削程序異常。



Cleaning methods

■ CNC車削室清潔

點選車削室清潔選項，讓料塊固定懸臂退至後方，並且開啟吸塵器。



清潔毛刷



提示：可搭配毛刷將過多的車削粉塵趕至集塵口。

For further information please visit our website <http://kewei.com.tw/>

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