

## Setup Instructions: V&P Pin Tool with TECAN Evo MCA384

### Purpose of This Document

This document provides information on setting up a V&P Scientific pin tool on a Tecan MCA384. Pin tool attachment as well as necessary steps for EVOware configuration are described. A pin tool attached to a modified MCA384 QC adapter plate can be ordered from V&P Scientific, Inc.

### Pin Tool Set-up

#### Different Magnetic IDs:

There are three magnetic IDs (Fig. 1) available for the MCA384 QC Adapter Plate in combination with pin tools: 10, 11 or 12. This means that a maximum of three different pin tools can be used on the same deck of a Freedom EVO and the MCA384 will be able to distinguish between each of them.

VP Scientific provides these modified Adapter Plates as Pin Tool Mounting Plates with the part numbers BMPTECAN384R-10, BMPTECAN384R-11 and BMPTECAN384R-12. The magnet codes are, respectively, [1010], [1011] and [1100], where "1" indicates a magnet and "0" is either a space or an empty hole.

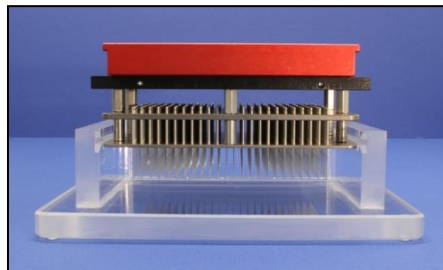


Figure 1. Magnet ID

### Pin Tool Attachment:

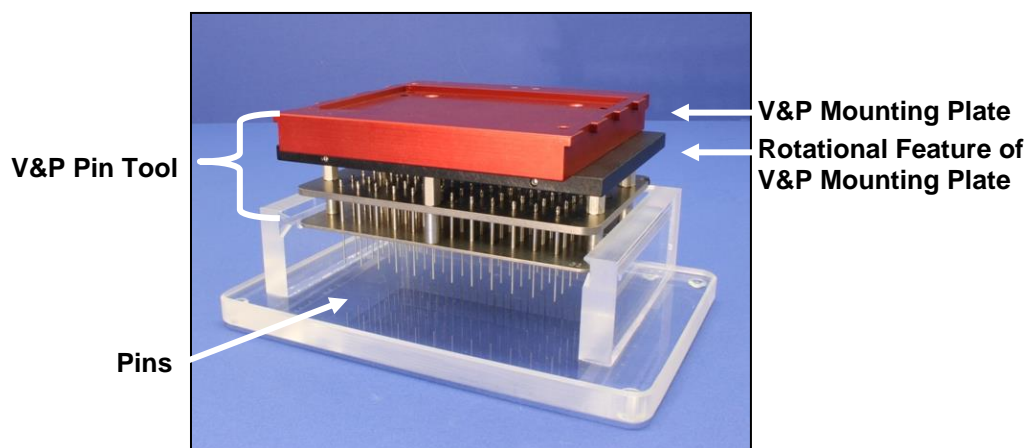
The following figures show a Pin Tool attached to a MCA384 QC Adapter Plate (BMPTECAN384R-12).

*Note: Pin Tool is shown with optional Storage Stand (available from V&P Scientific, P/N VP 555)*



**Figure 2. Pin Tool attached to a MCA384 QC Adapter Plate**

### Pin Tool Features:



**Figure 3. Pin Tool attached to a MCA384 QC Adapter Plate**

### Parking Position:

Pin tool dimensions in X-direction are larger than the ones of regular adapter plates. Therefore, a specific parking position is required. This holder can also be ordered at V&P Scientific (P/NVP 550ER)



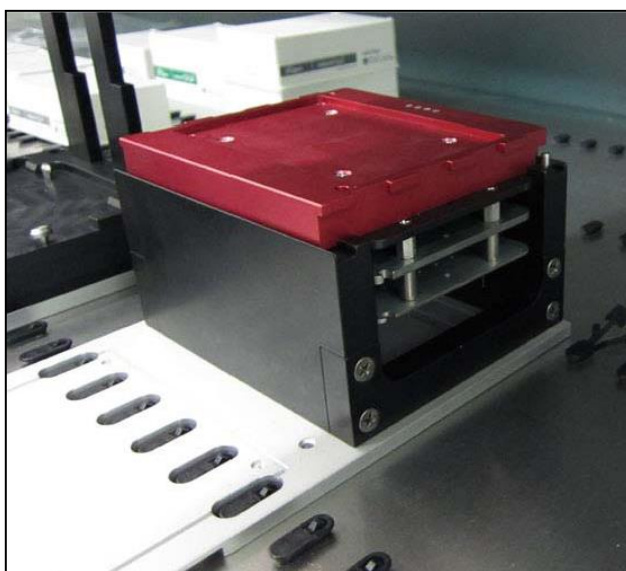
**Figure 4. V&P Scientific Pin Tool Holder**

## System Base Carrier:

V&P Scientific Pin Tool Holder fits on a regular MCA384 System Base Carrier (part number 30032024).



**Figure 5. MCA384 System Base Carrier**



**Figure 6. Pin Tool on Holder placed on the System Base Carrier**

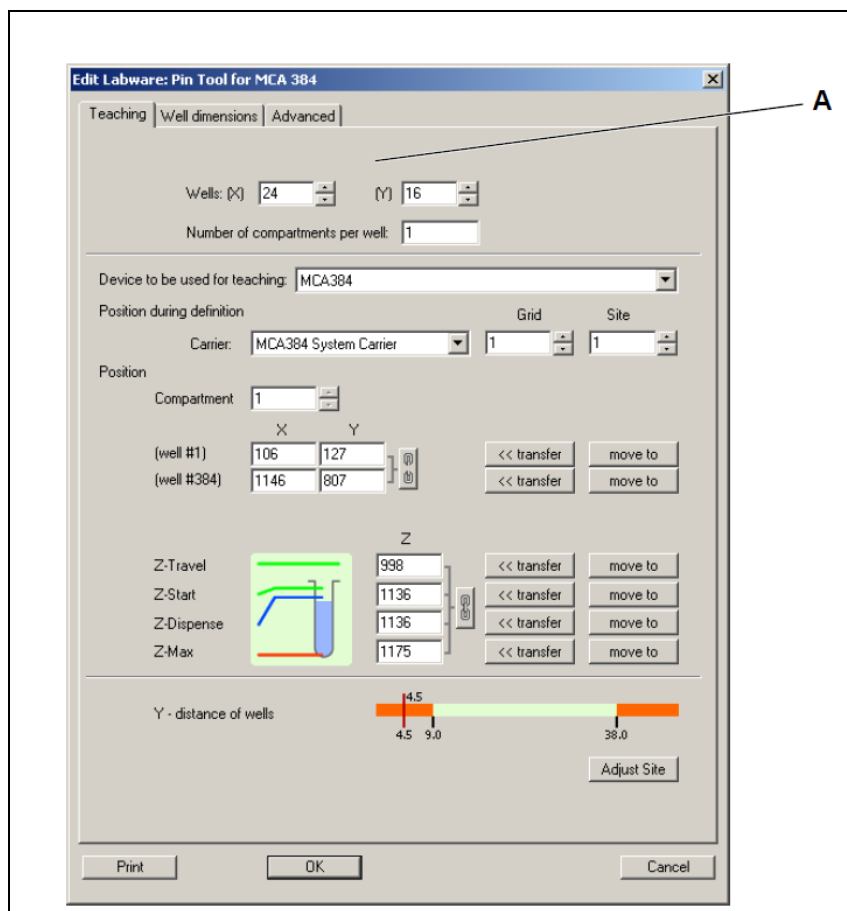
## EVOware Setup

Before starting to work with the pin tool the system needs to be set up in EVOware. For more information refer

to section "Configuring Labware" from within the "Freedom EVOware Software Manual" (393172).

## Pin Tool Type:

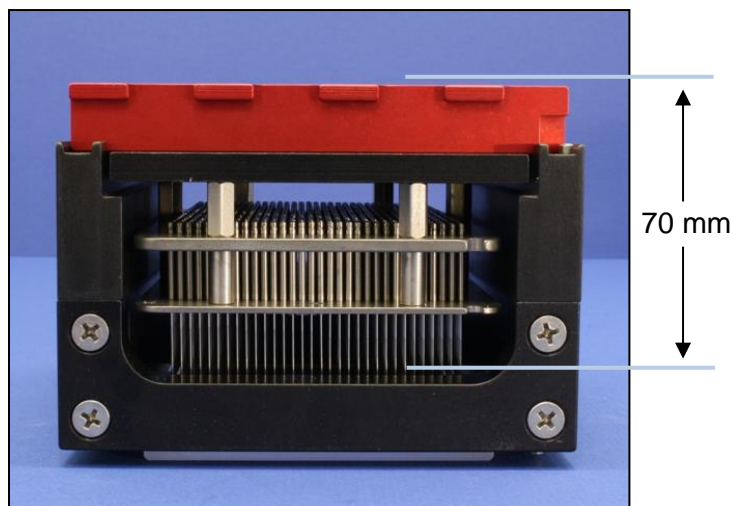
1. In EVOware use a predefined labware for a "Fixed Tip Block", duplicate it and chose the name "Pin Tool" when prompted.
2. Enter the respective type of pin tool (A) within the "Teaching" tab, e.g. 96, 384 or 1536. The following example screenshot shows the settings for a 384 well pin tool (24 times 16 equals 384).



**Figure 7. "Teaching" tab**

### **Determining "Tip Offset" value:**

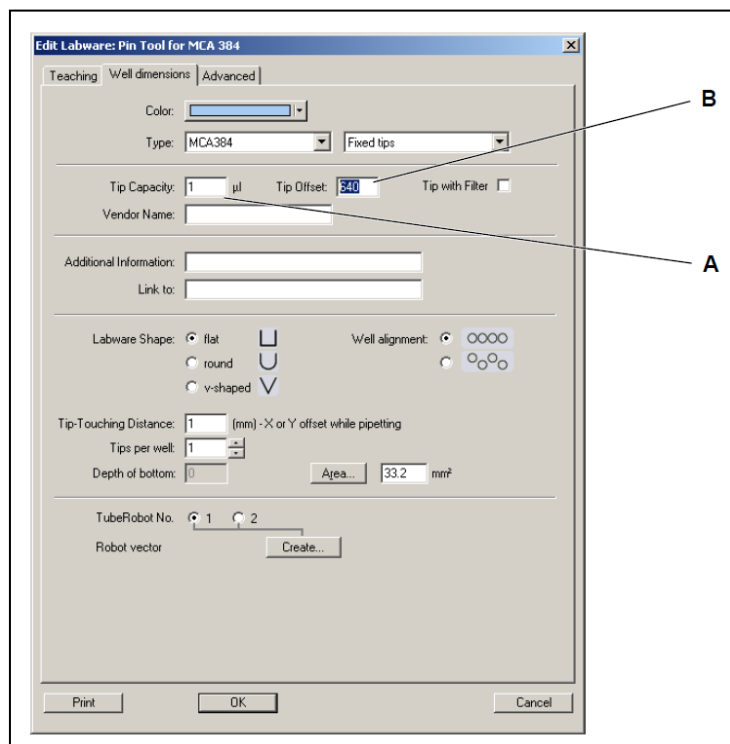
3. The most important part is the "Tip Offset". Measure the total distance in Offset Value millimeters from the top of the adapter plate to the end of the pin tool with the pins extended to the outer most Z-position (= tips of pins when hanging down). Multiply the result by 10 for getting the "Tip Offset" value. For example, if you measure a distance of 70 mm the "Tip Offset" value will be 700. It is recommended that this measurement is double checked for each Pin Tool being set up.



**Figure 8. Determining the "Tip Offset" value**

## Offset and Capacity:

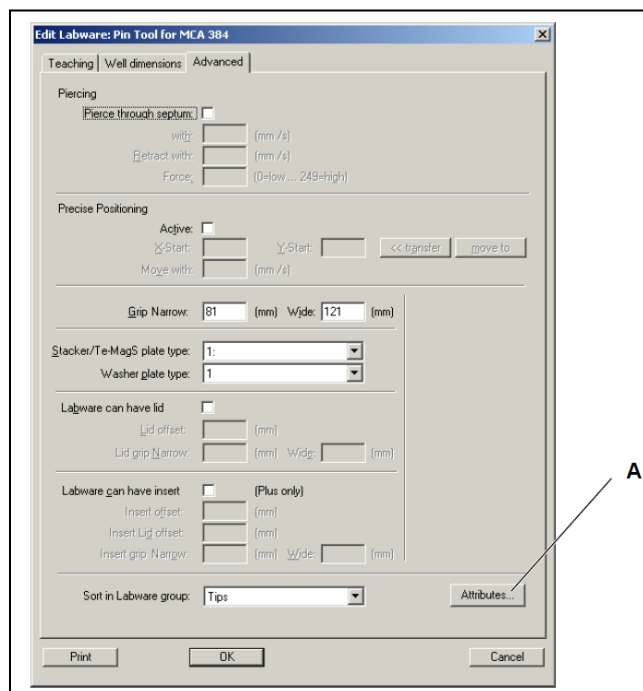
4. Enter the "Tip Offset" value (B) into the appropriate field within the "Well dimensions" tab of your labware. Enter the value of 1  $\mu\text{l}$  into the "Tip Capacity" field (A) for preventing plunger movements during the pin tool usage.



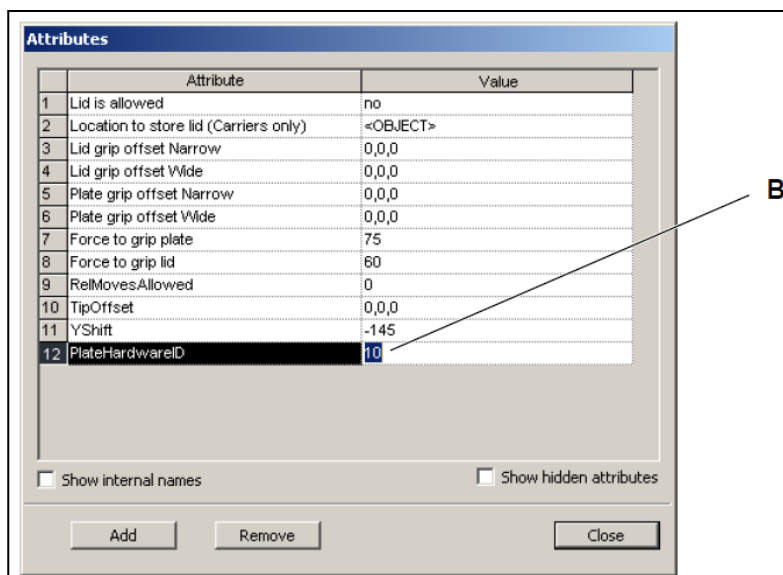
**Figure 9. "Well dimensions" tab**

## Adapter Plate ID:

5. Within the "Advanced" tab click the "Attributes..." button (A) and enter the Adapter Plate ID (B) of the MCA Adapter Plate, e.g., 10 in this case. Can be 10, 11 or 12.



**Figure 10. "Advanced" tab**

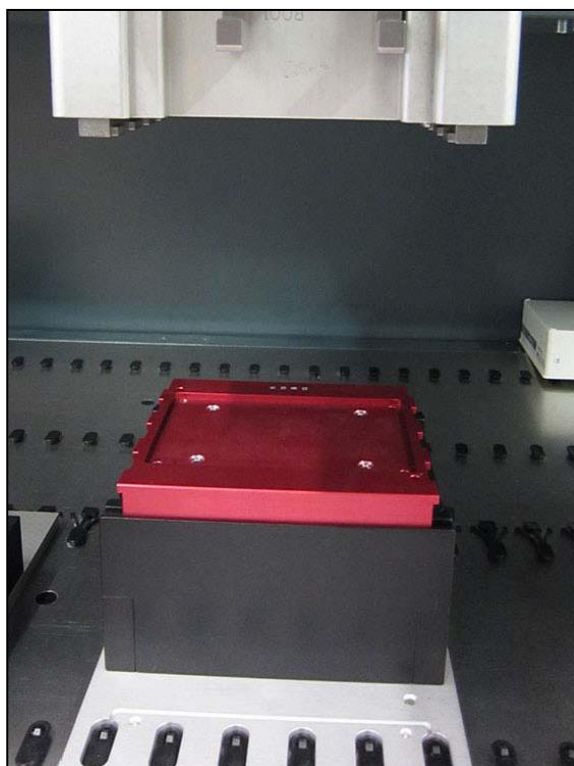


**Figure 11. "Attributes" window**

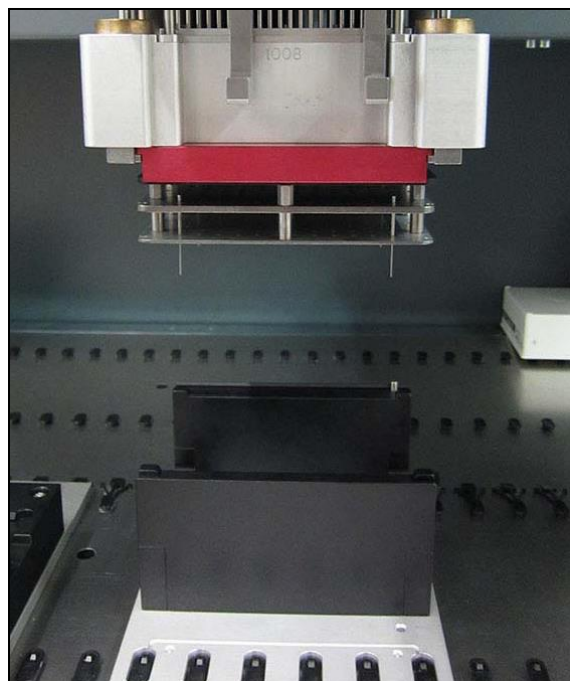


**ATTENTION** To prevent damage to the Pin Tool you must teach the Pin Tool before usage. See section "Configuring Labware" from within the "Freedom EVOware Software Manual" (393172) for information on how to teach the Pin Tool.

## Pick Up Procedure



**Figure 12. Pin tool parked on V&P Scientific holder.**



**Figure 13. Pin tool after being picked up by MCA384.**

If technical assistance is required for Pin Tool, please contact V&P Scientific, Inc. at 858-455-0643 or [sales@vp-sci.com](mailto:sales@vp-sci.com).

If technical assistance is required for Tecan Evo, please contact Tecan Customer Support: <http://www.tecan.com>