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Pin Tool Assembly Guide

This guide describes how to modify a Pin Tool from V&P Scientific, Inc. for use on the Agilent Bravo Automated Liquid Handling Platform or the Agilent Vertical Pipetting Station.

This guide contains the following topics:
- “About this guide” on page 2
- “Before you start” on page 4
- “Installing the dovetail assembly on the Pin Tool base assembly” on page 6
- “About installing the pin head on the assembled Pin Tool” on page 8
About this guide

Who should read this guide

This user guide is for people with the following job roles:

<table>
<thead>
<tr>
<th>Job role</th>
<th>Responsibilities</th>
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<tbody>
<tr>
<td>Installer</td>
<td>Unpacks, installs, and tests the device before it is used.</td>
</tr>
<tr>
<td>Integrator</td>
<td>Configures hardware and writes software.</td>
</tr>
</tbody>
</table>

The instructions in this guide assume that you have experience in the following:

- Using the Agilent Bravo Platform or the Agilent Vertical Pipetting Station on which the Pin Tool will be used, including how to install the liquid-handling head and how to set the device teachpoints.
- Working on mechanical equipment and using basic mechanical tools.

What this guide covers

This guide describes how to upgrade a V&P Scientific Pin Tool for use on the Agilent Bravo Platform or the Agilent Vertical Pipetting Station.

Figure  Bravo Platform with Pin Tool installed
Related guides

Use this guide in conjunction with the corresponding user guide for your product:

- **Bravo Automated Liquid Handling Platform Safety and Installation Guide.** Describes potential safety hazards and how to avoid them. This guide also describes how to install the Bravo Platform.
- **Bravo Automated Liquid-Handling Platform User Guide.** Describes how to set up, operate, and maintain the Bravo Platform.
- **Vertical Pipetting Station User Guide.** Describes potential safety hazards and how to avoid them, installation, and how to set up, operate, and maintain the Vertical Pipetting Station.

**To access the product user guides, do one of the following:**

- From within the VWorks software, select Help > Knowledge Base or press F1.
- From the Windows desktop, do one of the following:
  - Windows 10. Select Start > All Apps > Agilent Technologies > VWorks Knowledge Base.
  - Windows 7. Select Start > All Programs > Agilent Technologies > VWorks User Guides > VWorks Knowledge Base.
Before you start

Required resources

<table>
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<tr>
<th>Tools and materials</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hex driver, M2.5</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Cross-tip driver, no. 1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Agilent Pin Tool Dovetail assembly, including screws</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>V&amp;P Scientific Pin Tool base assembly</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>
Pin Tool components

The following figure shows the components in a fully assembled Pin Tool that is ready to be installed on the Agilent Bravo Platform or the Agilent Vertical Pipetting Station.

Figure  Pin Tool components (side view): (1) Dovetail assembly, (2) base assembly, (3) side covers, and (4) pin head

Workflow

<table>
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<tr>
<th>Step</th>
<th>For this task...</th>
<th>See...</th>
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<td>Install the dovetail assembly on the Pin Tool base assembly.</td>
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<td>2</td>
<td>Install the pin head on the Pin Tool base assembly.</td>
<td>“About installing the pin head on the assembled Pin Tool” on page 8</td>
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<tr>
<td>3</td>
<td>Install the Pin Tool on the liquid-handling device.</td>
<td>The user guide for your product</td>
</tr>
<tr>
<td>4</td>
<td>Start the VWorks software, open Diagnostics for the device, and create a device profile for the Pin Tool.</td>
<td>• Bravo Automated Liquid-Handling Platform User Guide</td>
</tr>
<tr>
<td>5</td>
<td>Set the teachpoints for the assembled Pin Tool.</td>
<td>• Vertical Pipetting Station User Guide</td>
</tr>
</tbody>
</table>
Installing the dovetail assembly on the Pin Tool base assembly

To install the dovetail assembly on the Pin Tool base assembly:

1  Using a cross-tip screwdriver, remove the four black side covers from the Pin Tool base assembly. Two screws attach each cover to the assembly.

   Figure  Side cover attachment screws on Pin Tool base (side view)

   Set aside the four covers and six screws for re-installation in a subsequent step.

2  Position the Dovetail assembly on top of the Pin Tool base assembly, inserting the (1) two retainer pins of the Dovetail assembly into the (2) two slots on the Pin Tool assembly base.

   Ensure the Dovetail assembly is firmly seated within Pin Tool base assembly.

   Note: The ridge on the long sides of the Dovetail assembly sits on the top edges of the Pin Tool base.
3 Install the six M3 screws, provided. Three screws secure each side of the Dovetail assembly in place on the Pin Tool base assembly.

The short ends of the Dovetail assembly should be flush with the edges of the Pin Tool assembly base.
About installing the pin head on the assembled Pin Tool

**CAUTION** An improperly aligned pin head can cause positional errors and may result in a collision, causing equipment damage. Ensure that the pin head is fully aligned with the Pin Tool base assembly before you set the device teachpoints.

You can install a 96-pin, 384-pin, or 1536-pin head on the Pin Tool base assembly.

To install the pin head on the base assembly, refer to the V&P Scientific pin head installation instructions.

After you install the pin head, you can reinstall the four black side covers using the screws that you set aside in step 1 of “Installing the dovetail assembly on the Pin Tool base assembly” on page 6.

*Figure* Fully assembled Pin Tool (side view) with pin head