

pipetman[®]

M CONNECTED

User's Guide PIPETMAN[®] M Connected Software

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Chapter 1

INTRODUCTION



PIPETMAN M® Connected Software Overview

PIPETMAN M Connected Software is an easy-to-use software for creating custom pipetting protocols for PIPETMAN M Connected. Use it to create personalized pipetting protocols on your PC or tablet and then transfer the protocols to PIPETMAN M Connected in the **Custom Mode**, where you can execute them.

Software Compatibility

- Windows® 7 Professional SP1
- Windows® 8 or 8.1
- Windows® 10
- Android v4.4.2 or higher
- Bluetooth® v4.0 or higher

Download the software (via Zip file) at www.gilson.com/pipetmann.

Set Password (Optional)

When installing the software (tablet users) or starting the software for the first time (PC users), you will be prompted to set a password or indicate that you do not want to use a password. Optionally, enter and confirm the user password and then select a security question and type the answer (the security question is used to recover a forgotten password). Or, select the option indicating that you do not want to use a password. You can start using passwords at any time (select **Other administration** and then **Change password**).

Users who use password protection have to provide the password to run PIPETMAN Connected Software and to modify custom protocols in PIPETMAN M Connected.

NOTE

If the password is forgotten, you must know the recovery password (specified during installation) or the answer to the security/hidden question to log in.

Institution/Company Profile (Optional)

When installing the software (tablet users) or starting the software for the first time (PC users), you will be prompted to enter institution/company profile information. Providing this information is optional and can also be done later (select **Other administration** and then **Institution/company profile**).



Home Screen

After starting PIPETMAN M Connected Software, the Home screen appears.

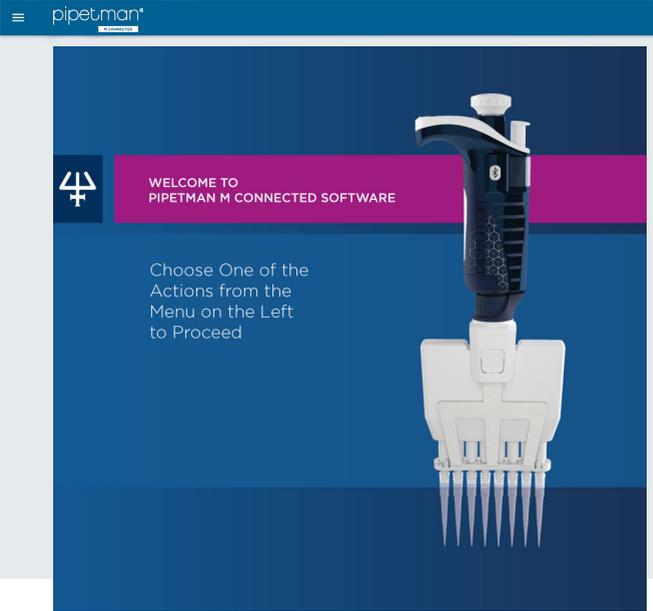


Figure 1
PIPETMAN® M Connected Software Home Screen
(Tablet - Top, PC - Bottom)



The Home screen offers the following options:

- ▶ **Manage protocols**
Create, edit, import, or export custom protocols.
- ▶ **Transfer custom protocols to pipette**
Connect a PIPETMAN M Connected pipette via USB cable (PC only) or Bluetooth and then transfer a selected custom protocol to PIPETMAN M Connected.
- ▶ **Update pipette settings**
Lock/unlock the pipette, turn sound alerts (beep) on or off, set or reset the maximum volume limit, or update pipette firmware.
- ▶ **Other administration**
Manage your PIPETMAN M Connected inventory, view history of custom protocol uploads to specific PIPETMAN M Connected pipettes, change your password, and modify or add your institution/company profile information.
- ▶ **File | Exit (PC Version Only)**
Close PIPETMAN M Connected Software.
- ▶ **Help**
Access the user's guide.
- ▶ **About**
Access version and licensing information about PIPETMAN M Connected Software.

Chapter 3

CONNECT PIPETTE

To transfer files and update settings on the pipette, the pipette must be connected to the PC (via USB or Bluetooth®) or tablet (via Bluetooth).

Connect via Bluetooth

Connection via Bluetooth is only available for PIPETMAN M Connected pipettes.

1. Connect the Bluetooth dongle (part number F807027) to a USB port. (PC only, not required when using a tablet).
2. Press the **Push** button on the pipette to switch it on and begin initialization.
3. When initialization is complete, press the **Menu** button on the pipette.
4. Press and hold the push button for 2-3 seconds until the Bluetooth indicator lights flash and then release the **Push** button.



Register the Pipette

When it is necessary to have the pipette connected, the software will prompt you. If the pipette has been registered previously, it is only necessary to activate the Bluetooth on the pipette to make the connection; however, if this is the first time the pipette is being used in the software, it is necessary to register the pipette.

1. From the main menu, select **Other administration** and then **Pipette management**.
 2. Select **+** next to **Registered pipettes**.
 3. Connect the pipette.
 - If connecting via Bluetooth:
 - On the tablet, select **↻**. The software searches for pipettes with Bluetooth activated (indicator lights flashing).
 - On the PC, select **Connect via BLE**. The software searches for pipettes with Bluetooth activated (indicator lights flashing).
- NOTE** Many devices may be detected, but only one can be connected.
- If connecting via USB:
 1. Use a USB cable to connect the pipette to the PC.
 2. Select **Connect via USB**. The connected pipette appears in the **Devices** list.
 4. Select the pipette in the **Devices** list.
 5. Select **Next**.
 6. If prompted, enter a name for the pipette.

Chapter 4

CREATE AND MANAGE PROTOCOLS

Select **Manage protocols** to create, edit, import, or export protocols. PIPETMAN M Connected Software stores information about custom pipetting protocols in specific files with the extension .pmp.



Create a Protocol

Select **New protocol**.

Protocol Info

On the **Protocol info** tab, enter basic information about the protocol.

1. Enter the **Protocol name** (e.g., DNA-isolation) and then select **Create**. The **Edit Protocol** screen appears with **Protocol info** and **Protocol setup** tabs.
2. On the **Protocol info** tab, select the pipette from a list of PIPETMAN M Connected models.
3. Enter the name of the user creating the protocol (**Protocol created by** field).
4. Optionally, enter any comments.

Protocol Setup

On the **Protocol setup** tab, build a pipetting protocol by adding tasks from the **Available tasks** list to the **Protocol** pane and then optionally modifying the task's default parameters:

1. Select a task in the **Available task** list.
2. Access the task parameters in one of two ways:
 - Select the right arrow (>).
 - Double-click (PC) or double-tap (tablet) the task name.
3. Enter or change task parameters for your application.
4. Select **Create** to add the task to the protocol.
5. Repeat steps 1-4 to add additional tasks to the protocol, if desired.
6. When the protocol contains all desired tasks, select **Save** to store the protocol. If you are using password protection, you will be asked to confirm this action by entering your password.

The protocol is now listed in the **Manage protocols** list.

Protocols can contain up to 40 tasks.

NOTE

Tasks listed will be executed from top to bottom. Optionally, reorder the tasks by selecting the up/down arrows   or by drag-and-drop (PC only).



AVAILABLE TASKS

Aspirate

Aspirates specified volume into the tip.

Beep

Makes pipette produce a beeping sound while selected tasks are executed.

Dispense

Dispenses specified volume from the tip.

Dispense all

Dispenses all remaining volume from the tip followed by a purge action.

Loop

Enables repetition of any task once or more.

Tasks between Loop (start) and Loop (end) will be executed in sequence for the specified number of iterations.

Example

If the loop contains two tasks: Aspirate 20 μL followed by Dispense 20 μL and the number of iterations is set to 3, the tasks will be executed in the following order:

1. Aspirate 20 μL
2. Dispense 20 μL
3. Aspirate 20 μL
4. Dispense 20 μL
5. Aspirate 20 μL
6. Dispense 20 μL

Mix

Mixes the specified volume in one or more cycles.

Purge

Dispenses all remaining volume from the tip followed by purging extra volume.



Repetitive

Distributes the same volume repeatedly in a pre-defined number of equal aliquots.

Reverse

Reverse pipetting where during aspiration, additional liquid is added and after delivery, the excess volume remains in the tip and is discarded.

Wait

Adds a wait for a specified number of seconds.

Wait for Click

Pauses the protocol until the push-button is clicked.

DEFAULT TASK PARAMETERS

Each task has modifiable parameters.

Parameters marked with an asterisk are mandatory.

NOTE

A pipette is able to display a limited number of characters on its LCD screen. If you use longer strings of characters in Display text, then not all may be displayed.

Display text field is disabled when Execute automatically is checked. The Use Push button mixing option for mix mode is disabled for tasks that are automatically executed.

Aspirate and Dispense

Aspirate and Dispense tasks have the following parameters:

- **Task name:** specify the name of the task.
- **Volume (μL):** specify the volume for the task in microliters.
- **Speed:** specify the speed for aspirating and dispensing.
- **Comments:** enter any comments related to the task.



- **Display text**⁽²⁾: enter text to display on the pipette's LCD screen when the task is active.

NOTE

The number of characters for display text is limited.

- **Execute automatically**: specify whether the task should be executed automatically after the previous task is completed.

Beep

The **Beep** task has the following parameters:

- **Task name**: specify the name of the task.
- **Comments**: enter any comments related to the task.
- ▶ **Example**: To produce a beep sound with duration of 1 second on the pipette before the **Aspirate** task, position the following set of tasks before the **Aspirate** task:
 - **Beep** task (creates the beep start and end tasks).
 - **Wait** task (with duration 1 s), which should replace the beep placeholder task between the two beep tasks.

Dispense all

The **Dispense all** task has the following parameters:

- **Task name**: specify the name of the task.
- **Speed**: specify the speed for the dispense.
- **Comments**: enter any comments related to the task.
- **Display text**: enter text to display on the pipette's LCD screen when the task is active.

NOTE

The number of characters for display text is limited.

- **Execute automatically**: specify whether the task should be executed automatically after the previous task is completed.



Loop

The **Loop** task has the following parameters:

- **Task name:** specify the name of the task.
- **Number of iterations:** specify how many times the pipette should repeat the tasks that are placed inside the **Loop** task.
- **Comments:** enter any comments related to the task.

Mix

The **Mix** task has the following parameters:

- **Task name:** specify the name of the task.
- **Volume (μL):** specify the volume for the task in microliters.
- **Aspiration speed:** specify the speed for the aspiration.
- **Dispense speed:** specify the speed for the dispense.
- **Use Push button mixing:** when checked, mixing will be performed continuously for as long as the user holds the Push button on the pipette; once the Push button is released, mixing stops and the next task in the protocol is executed.
- **Number of cycles:** specify how many times to mix the volume.
- **Comments:** enter any comments related to the task.
- **Display text:** enter text to display on the pipette's LCD screen when the task is active.

NOTE

The number of characters for display text is limited.

- **Execute automatically:** specify whether the task should be executed automatically after the previous task is completed.

Purge

The **Purge** task has the following parameters:

- **Task name:** specify the name of the task.
- **Comments:** enter any comments related to the task.
- **Display text:** enter text to display on the pipette's LCD screen when the task is active.

NOTE

The number of characters for display text is limited.

- **Execute automatically:** specify whether the task should be executed automatically after the previous task is completed.



Repetitive

The **Repetitive** task has the following parameters:

- **Task name:** specify the name of the task.
- **Comments:** enter any comments related to the task.
- **Aliquot volume (μL):** enter the requested volume for each aliquot.
- **Number of aliquots:** enter the desired number of aliquots.

NOTE

The software automatically calculates the number of aliquots possible and will only allow you to enter a valid value.

- **Aspiration speed:** specify the speed for the aspiration.
- **Dispense speed:** specify the speed for the dispense.
- **Display text:** enter text to display on the pipette's LCD screen when the task is active.

NOTE

The number of characters for display text is limited.

Reverse

The **Reverse** task has the following parameters:

- **Task name:** specify the name of the task.
- **Comments:** enter any comments related to the task.
- **Volume (μL):** specify the volume for the task in microliters.
- **Aspiration speed:** specify the speed for the aspiration.
- **Dispense speed:** specify the speed for the dispense.
- **Display text:** enter text to display on the pipette's LCD screen when the task is active.

NOTE

The number of characters for display text is limited.

- **Execute automatically:** specify whether the task should be executed automatically after the previous task is completed.



Wait

The **Wait** task has the following parameters:

- **Task name:** specify the name of the task.
- **Duration (s):** specify the duration of the pause in seconds.
- **Comments:** enter any comments related to the task.
- **Display text:** enter text to display on the pipette's LCD screen when the task is active.

NOTE

The number of characters for display text is limited.

Wait for Click

The **Wait for click** task has the following parameters:

- **Task name:** specify the name of the task.
- **Comments:** enter any comments related to the task.
- **Display text:** enter text to display on the pipette's LCD screen when the task is active.

NOTE

The number of characters for display text is limited.

EDIT TASKS

To edit the parameters of a task in a protocol, do either of the following:

- Select the task, right-click (PC) or press and hold (tablet), and then select **Edit task**.
- Double-click (PC) or double-tap (tablet) the task name in the protocol.

The **Edit task** screen opens, where you can modify the task's parameters and store them.

CLONE TASKS

To clone (make a copy) of a task in a protocol

1. Select the task.
2. Right-click (PC) or press and hold (tablet), and then select **Clone task**.
3. Change the name or any parameters as desired and then select **Create** to add the task to the protocol.



DELETE TASKS

To delete a task from a protocol, select the task.

PC

Do either of the following actions:

- Right-click on the task, and then select **Delete task**.
- Select .
- Select the left arrow (<).

Tablet

Do either of the following actions:

- Select the task, press and hold, and then select **Delete task**.
- Select .
- Select the left arrow (<).

When prompted, confirm that you want to delete the task.

PIPETTE VOLUME INDICATOR

As you build a protocol, the pipette volume indicator will display how much of the pipette's maximum volume is used at the end of the protocol with indicator bars (green to red color). The exact volume is displayed next to the color bars. If you click on a particular task, a rectangle will mark the volume of the current task (blue rectangle indicates aspirating, and red rectangle indicates dispensing of volume).

If the volume in pipette exceeds the maximal volume, or is below the minimal volume of the pipette, the pipette volume indicator will be surrounded with a red rectangle.

Warning and Error Messages

PIPETMAN M Connected Software verifies the protocol after the addition of each task or after modification of a task to determine whether the volume of the pipette is still within the volume specifications for that particular PIPETMAN M Connected model. If the volume exceeds the pipette model specifications or would leave volume in the tip, an error sign  or  will appear next to the task. More details about the error are available in a tool tip (PC only). Protocols that contain one or more  signs may be saved; however, they cannot be transferred to a pipette and cannot be exported. Protocols that contain one or more  signs may be transferred to a pipette and can be exported; however, executing these protocols on the pipette repeatedly may cause the pipette to have an error.



Manage Protocols

All protocols that have been created are listed in the **Manage protocols** screen with information on pipette model, date of creation, date of last modification, person that created the protocol, and person that last modified the protocol. If a protocol contains an error, the icon is displayed.

Name	Pipette model	Created on	Last modified on	Created by	Last modified by
Dispensation task	M1000	2014-12-19 11:32	2014-12-19 14:54	Kata	Luka
Dispensation task_1	MBx300	2014-12-19 15:38	2014-12-19 15:38	Lucky	Lucky
Extraction_DNA	M1000	2014-12-19 16:00	2014-12-19 16:00	Jane	Jane
Mix adding_fast	M10	2014-12-19 15:43	2014-12-19 15:43	Lucky	Lucky
Mixing	M200	2014-12-19 11:41	2014-12-19 14:54	Kata	Tea
Mixing fast	M200	2014-12-19 15:40	2014-12-19 15:40	Jane	Jane
Mixing slow	M200	2014-12-19 15:45	2014-12-19 15:45	Martin	Martin
PCR_Master Mix	M10	2014-12-19 15:42	2014-12-19 15:42	Lucky	Lucky
PCR_mix adding	M10	2014-12-19 12:27	2014-12-19 14:54	Kata	Matjaz
PCR_mix adding sl...	M10	2014-12-19 15:41	2014-12-19 15:41	Jeniffer	Jeniffer
PCR_sample adding	M10	2014-12-19 11:52	2014-12-19 15:15	Kata	Kata
PCR_sample isolati...	M200	2014-12-19 15:46	2014-12-19 15:46	June	June
Plasmid purification	M200	2014-12-19 15:47	2014-12-19 15:47	Mathew	Mathew
RNA isolation from...	M200	2014-12-19 12:36	2014-12-19 14:54	Kata	Jane
RNA isolation from...	M1000	2014-12-19 14:41	2014-12-19 14:41	Kata	Kata
RNA isolation from...	M1000	2014-12-19 15:36	2014-12-19 15:36	Jeniffer	Jeniffer
RNA purification	M1000	2014-12-19 16:00	2014-12-19 16:00	Michael	Michael
Sample dilution	M10	2014-12-19 15:48	2014-12-19 15:48	Winfred	Winfred
qPCR protocol	M10	2014-12-19 15:44	2014-12-19 15:44	Juliane	Juliane

Figure 2
Manage Protocols Window

For each of the protocols listed you can perform the following actions. Simply select the protocol and then select one of the buttons:

- ▶ **Edit** Edit a protocol (change the PIPETMAN M Connected model, rename protocol, add/edit/remove tasks).
- ▶ **View** View a protocol. No parameters can be changed in the “View mode”.
- ▶ **Clone** Clone a protocol (if you are creating a similar protocol, cloning will save time).
- ▶ **Delete** Delete a protocol.
- ▶ **Export** Export a protocol to a .pmp file and store it on the PC or tablet.
- ▶ **Export PDF report** Create a summary of the protocol in the form of a print-ready pdf document.

Alternatively, right-click on the protocol and then select the desired action. (PC Only)

Edit a Protocol

To edit a protocol, do either of the following:

- Select the protocol, right-click on it, and then select **Edit protocol** (PC only)
- Double-click (PC) or double-tap (tablet) the protocol name in the list.
- The **Edit Protocol** screen opens.



Clone a Protocol

To clone (make a copy) of a protocol, select the protocol, right-click on it, and then select **Clone protocol** (PC only). Change the name or any parameters as desired and then select **Save**.

Import a Protocol

To import a protocol:

1. Select **Import a protocol**.
2. Browse for and then select a **PIPETMAN M Connected BLE protocol** file (.pmp).
3. If prompted, enter a new protocol name.
4. Select **Import**.

The protocol is now accessible in the **Manage protocols** screen.

Export a Protocol

To export a protocol:

1. Select a protocol from the list.
2. Select **Export**.
3. On a PC, select the export location. On the tablet, the protocol will be automatically exported to the Documents folder.
4. Select **Export**.

Chapter 5

TRANSFER PROTOCOLS TO PIPETTE

To transfer a protocol to a PIPETMAN M Connected pipette, select **Transfer protocols to pipette** and then follow the on-screen instructions.

1. Connect the pipette to the PC (via USB or Bluetooth®) or tablet (via Bluetooth®).
2. By default, the protocols for the connected PIPETMAN M Connected model are listed. Access protocols created for other PIPETMAN M Connected models by selecting the model from the **Show protocols for pipette model** drop-down list.
3. Select a protocol in the list and then click **>**. The protocol is added to the list of protocols currently on the pipette.



NOTE

Protocols that contain volumes outside the range for the connected pipette will have a red error sign (⊖) cannot be transferred to a pipette. On the bottom left of the screen, the pipette connection information is displayed. An icon accompanied with text reports the current connectivity status. The connectivity status is refreshed when any button is selected.

5. Optionally, select **Mute beeps** if you want to disable any pipette sounds during beep tasks.
6. Select **Update pipette**. The protocol is now available on the pipette.

Chapter 6

UPDATE PIPETTE SETTINGS

Optionally, set the following options on PIPETMAN M Connected:

- Set the **Beep** to On or Off (switches the tone of the pipette to On or Off). Beep On and Off only affects the built-in pipette protocols, as well as Aspirate, Dispense, Mix, Purge tasks (but NOT beep task).
- Set **Lock pipette** to On or Off (**Lock pipette On** disables access to Configuration, Speed, and Mode on the pipette).
- **Maximal volume limit** enables setting the maximal allowed volume for the connected pipette; however, it cannot be higher than the pipette's specified maximal volume. Enter the volume (in microliters) in the field.

To modify these settings, follow these steps:

1. Select **Update pipette settings**.
2. Connect the pipette to the PC (via USB or Bluetooth) or tablet (via Bluetooth).
3. Make any desired changes to the options.
4. Select **Finish**. The pipette settings are updated.

To refresh the pipette's **Maximal volume limit** to the pipette's specified maximal volume, select **Reset to pipette max**.



Chapter 7

UPDATE PIPETTE FIRMWARE

To update the firmware in PIPETMAN M Connected:

1. Connect the pipette to the PC (via USB or Bluetooth) or tablet (via Bluetooth).
2. Select **Update pipette settings**.
3. Select **Update firmware**.
4. Browse for and then select the firmware file.
5. When prompted, select **OK** to confirm the firmware update.
6. Wait for the firmware update to finish and then select **OK**.

NOTE

On the bottom left of the screen, the pipette connection information is displayed. An icon accompanied with text reports the current connectivity status. The connectivity status is refreshed when any button is selected.

Chapter 8

OTHER ADMINISTRATION

Here you can perform the following administrative tasks:

- ▶ **Pipette management**
Manage the inventory of your PIPETMAN M Connected pipettes.
- ▶ **View history**
View the history of protocol uploads to PIPETMAN M Connected pipettes and the history of protocol modifications by user.
- ▶ **Change password**
Change the password to access PIPETMAN M Connected Software.
- ▶ **Institution/company profile**
Manage the information related to your Institution/Company.

Pipette Management

Register the Pipette

When it is necessary to have the pipette connected, the software will prompt you. If the pipette has been registered previously, it is only necessary to activate the Bluetooth on the pipette to make the connection; however, if this is the first time the pipette is being used in the software, it is necessary to register the pipette.

1. From the main menu, select **Other administration** and then **Pipette management**.
2. Select  next to **Registered pipettes**.
3. Connect the pipette.
 - If connecting via Bluetooth:
 - On the tablet, select . The software searches for pipettes with Bluetooth activated (indicator lights flashing).
 - On the PC, select **Connect via BLE**. The software searches for pipettes with Bluetooth activated (indicator lights flashing).
 - If connecting via USB:
 1. Use a USB cable to connect the pipette to the PC.
 2. Select **Connect via USB**. The connected pipette appears in the **Devices** list.
4. Select the pipette in the **Devices** list.
5. Select **Next**.
6. When prompted, enter a name for the pipette. If the pipette has already been registered, then an informational message will appear.

Rename Pipette

You can rename a pipette in the **Registered pipettes** list by selecting the pipette, selecting **Rename**, entering a new name, and then selecting **Rename**.

Refresh Maintenance Dates

You can refresh the maintenance dates (last and next) by selecting **Refresh**. The pipette must be connected.

Delete Pipette

You can delete a pipette in the Registered pipettes list by selecting the pipette, and then selecting **Delete**.



View History

View the history of protocol uploads to PIPETMAN M Connected pipettes (**Protocol upload** tab) and the history of protocol modifications (**Protocol management** tab).

To display the history of protocol uploads to PIPETMAN M Connected pipettes, navigate to the **Protocol upload** tab, select the time interval, and then select **Show history**. The protocols that have been uploaded to any PIPETMAN M Connected pipette within the selected time interval will be listed in the table that displays the following information for each protocol: Protocol name, Pipette name, Pipette model, Pipette serial, Uploaded on, and Result.

To display the history of protocol modifications, navigate to the **Protocol management** tab, select the time interval, and then select **Show history**. The protocols that have been modified within selected time interval will be listed in the table that displays the following information for each protocol: Protocol ID, Original protocol name, Modified by, Modified on, and Action.

Change Password

Change a password, change the Hidden question and Hidden answer, or disable/enable the use of passwords (check box: Don't use password).

Institution/Company Profile

Optionally, enter the information related to your Institution/Company here or modify it. Enter the information in provided fields and then select **Save**.



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