

# Thermo Scientific Matrix Hybrid Pipette

## User Manual





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## **Congratulations!**

You have purchased the most technologically advanced handheld pipetting system on the market today. The Thermo Scientific Matrix hybrid pipette combines the benefits of an electronic pipette with the control and lightweight feel of a manual.

The hybrid pipette works exclusively with the Matrix ClipTips, which provide a unique binary tip interface that locks or ‘clips’ the tip onto the pipette for stable, straight mounting every time. Simply touch the hybrid pipette to the Matrix ClipTip and it locks in place – it will only release when ejected, regardless of application pressure.

The Matrix hybrid features three methods of quick volume adjustment, including simple incremental scroll buttons, user defined volume pre-sets, or with voice commands using state-of-the-art voice recognition (VR) technology.

## **Before You Begin**

Before using the hybrid pipette, verify the contents of the package. This package should contain the following items:

Hybrid Pipette

Operator’s Manual

Universal Power Supply with Charge Clip

Quick Start Guide

Warranty Card

Accuracy/Precision Data Sheet

Sample ClipTips

If items are missing, contact a Thermo Scientific representative.

The hybrid pipette will need to be charged for at least one hour prior to first use.

## A. Introduction

The Thermo Scientific Matrix hybrid pipette combines the benefits of an electronic pipette with the control and lightweight feel of a manual. The hybrid pipette works exclusively with the Matrix ClipTips, which provide a unique binary tip interface that locks or 'clips' the tip onto the pipette.

The Matrix hybrid features three methods of quick volume adjustment, including simple incremental scroll buttons, user defined volume pre-sets, or with state-of-the-art voice recognition (VR) technology. Enhanced accuracy and precision is obtained with an intelligent processor controlled volume adjustment that accurately directs each volume range with a precise control algorithm. This technology allows for precise pipetting throughout the entire range of the pipette.

Calibration is simple. Use One-Point calibration when pipetting a specific volume consistently. Use Two-Point calibration when pipetting throughout the entire volume range of the pipette. The pipette can easily be restored back to its original factory calibration points at any time.

Preset volumes with the **QUIK-set** user defined volume adjustment feature. This saves time when toggling between two or more volumes with the same pipette.

Ergonomic, light plunger force allows superior control when pipetting. Voice recognition commands and user-defined preset volumes save time by eliminating strenuous knob twisting involved with other manual pipettes. Electronic adjustment of the volume guarantees consistent precise pipetting.

Exclusive ClipTip interface delivers assurance of an effective seal without the need to apply excessive force or having to "bang on" the pipette tip. Simply touch the pipette to the ClipTip and it locks in place – it will only release when ejected, regardless of application pressure. ClipTips are binary, so they are either "*on*" or "*off*" the pipette.

## B. Hybrid Pipette and ClipTips Overview

The pipette has three modes of operation for volume adjustment:

- **Volume Scrolling Mode** - The volume can be manually adjusted using the Up and Down Scroll buttons. Pressing and holding will increase the speed at which digits change on the display. Volume Scrolling Mode is always on.
- **QUIK-set Mode** - The user may toggle between six preset volumes that are stored in memory. These presets are easily deleted and replaced by the user as needed. QUIK-set Mode is the factory default mode and when disabled Voice Recognition Mode is selected.
- **Voice Recognition Mode** - Pressing the "TALK" button allows the user to select the desired volume by speaking aloud to the pipette. Voice Recognition Mode has two variants, either Speaker Independent Mode which recognizes standard English input, or Speaker Dependent Mode which requires the user to train the pipette to a desired language or regional accent. Voice Recognition Mode is disabled when QUIK-set Mode is selected.

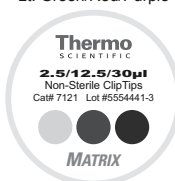
(See Programming and Operation, Section D)

### ClipTips

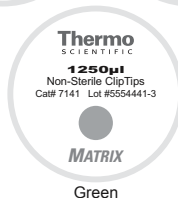
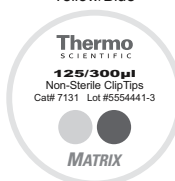
ClipTip racks featuring multi-colored labels are compatible with several volume ranges of pipettes. Use the chart below to match the color of the pipette with the corresponding ClipTip rack label.

Pipette Color	Tip Volume	Range
Red	12.5µl	0.5-12.5µl
Purple	30µl	2-30µl
Yellow	125µl	10-125µl
Blue	300µl	20-300µl
Green	1250µl	100-1250µl

Lt. Green/Red/Purple



Yellow/Blue



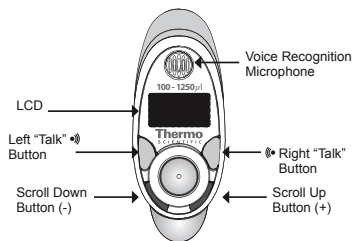
## B 1. Keypad

**Talk Button** - Use the left or right Talk buttons to deliver voice commands.

**Scroll Buttons** - Use the Up or Down Scroll buttons to increase or decrease desired pipette volume.

**LCD Screen** - The display shows the current volume setting and pipettes status information, such as low battery and user interface information.

**VR Microphone** - Speak into the voice recognition microphone when utilizing voice commands while holding down the Talk button. The pipette should be held at an optimal distance of 12-18 inches away from the mouth.



## B 2. Hybrid Pipette

**Color** - Represents volume range for that handle. Reference the color chart on the previous page for volumes.

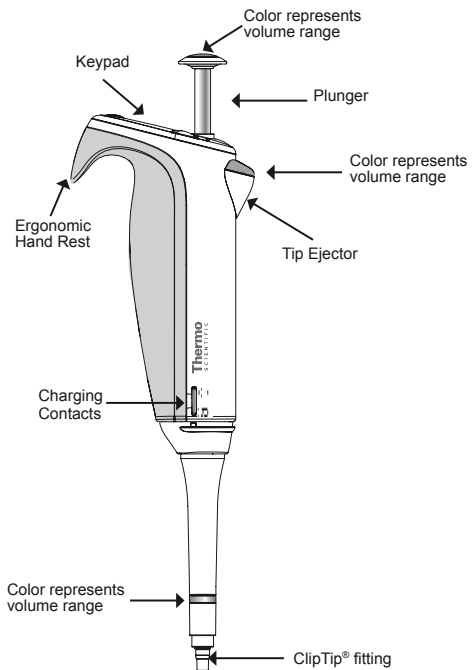
**Plunger** - Manual aspiration and dispensing of liquids.

**Keypad** - Interface for programming the hybrid pipette.

**Tip Ejector** - Ejects the ClipTips from the pipette when pressed.

**Ergonomic hand rest** - Provides a comfortable grip while pipetting.

**Charging contacts** - Contact point for charge clip or charge carousel for revitalizing the battery when low, or depleted.





### B 3. Hazards and Precautions



**WARNING!** Ensure that the Charge Clip or Carousel power transformer is connected to a power receptacle that provides voltage and current specified Thermo Scientific. Use of an incompatible power receptacle can cause shock and fire hazard.



**WARNING!** Do not autoclave the unit. Extreme heat will damage electronic components.

**CAUTION!** Do not leave the pipette exposed to U.V. light for extended periods. Extended exposure will cause discoloration of the plastic housing.

**CAUTION!** Do not immerse the unit in liquid. Fluid seepage can damage internal components.

**CAUTION!** Do not clean the keypad with bleach solution or other solvents. Caustic cleaning solutions can damage the keypad.

## C. Applying Tips

### C 1. How to Apply ClipTips



Simply touch the pipette to the ClipTip. When the tip “clips” onto the pipette, it is ready for use. Use the ejector button to eject the ClipTip. On multi-channel units, gently roll the pipette forward and back to ensure that the tip fittings contact all the tips in the row.

ClipTips racks featuring multi-colored labels are compatible with several volume ranges of pipettes.



## C 2. Ordering Guide

### ClipTips and Hybrid Pipetting System

Tips packed 10 racks of 96.

Tip Volume	Range	Single Channel	8 Channel	12 Channel	Bulk ClipTips	Non-sterile ClipTips	Sterile ClipTips	Filter/Sterile ClipTips
1250µl	100-1250µl	1085	-	-	7140*	7141*	7142*	7145*
300µl	20-300µl	1084	2315	2325	7130*	7131	7132	7135
125µl	10-125µl	1083	-	-	7130*	7131	7132	7135
30µl	2-30µl	1082	2312	2322	7120*	7121	7122	7175
12.5µl	0.5-12.5µl	1081	2310	2320	7120*	7121	7122	7165

\* Bulk, 500 tips

\* Bulk, 1000 tips

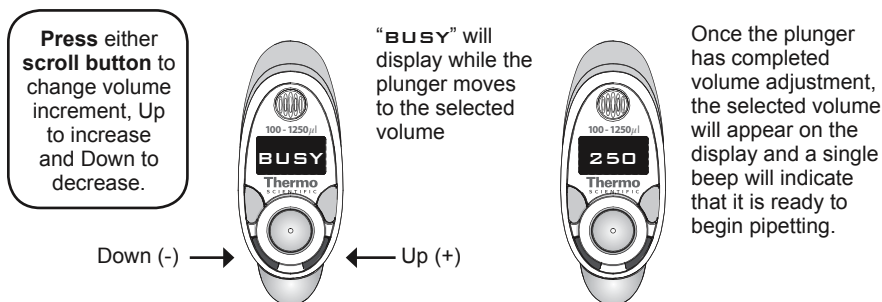
\* 8 Racks of 96 tips

## D. Programming and Operation

The pipettes volume can be set either by using the Scroll buttons, Voice Recognition or by user defined **QUIK-set** volumes. The Voice Recognition Mode comes ready to use for the English language. If English is not the language of choice, the Hybrid pipette can support all languages with user training. When toggling between one or more volumes consistently, use the **QUIK-set** volume mode (see section D3 for programming **QUIK-set**).

### D 1. Set the Volume Using the Scroll Buttons

**Note:** The speed of the volume Scrolling will increase as the scroll buttons are continuously held and will stop when the button is released.



## D 2. Navigating the Main Menu Options

Access the Main Menu by pressing and holding the Scroll buttons simultaneously, then release. "MENU" will immediately appear on the screen. Use the Scroll buttons to navigate through the menu options and the Talk buttons to enter or select options.

Option	Description
QUIK	Enter the QUIK-set mode to enable or disable this function
CAL1	Enter this option when using the One-Point calibration
CAL2	Enter this option when using the Two-Point calibration
CALF	Tap Talk to re-establish the factory calibration
VOIC	Enter the voice recognition menu for user training, disabling this mode, or changing previously programmed users
INFO	Displays current software version and settings
EXIT	Exit this menu

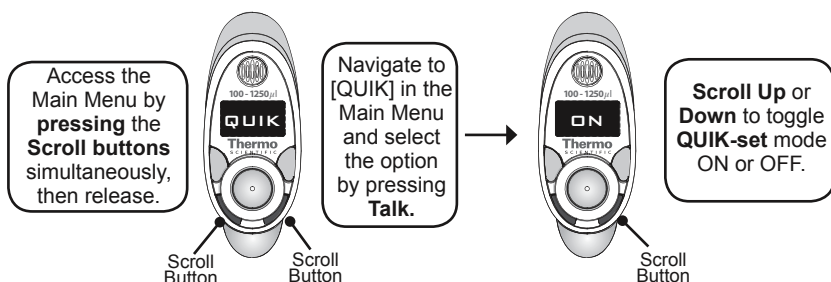
If there is no button activity for 10 seconds, the pipette will return to its previously set functions. While in either [CAL1] or [CAL2] mode there are thirty minutes to complete the calibration process. Refer to section F for calibration instructions and to section E for the [VOIC] menu navigation and options.

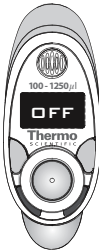
## D 3. Programing the QUIK-set Volume(s)

This mode is used to pre-program volume settings in memory, reducing the need for incremental volume scrolling. The Voice Recognition Mode is turned [OFF] while this menu option is [ON]. Up to six (6) QUIK-set volumes may be stored in memory. Follow the diagram below for programming instructions.

### D 3a. Turn On/Off the QUIK-set Mode

**Note:** QUIK-set is the factory default setting.





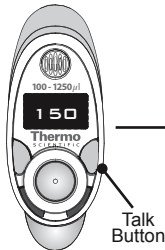
**Tap the Talk button**  
once to select this  
mode  
ON or OFF

The selection is stored  
in memory and the  
pipette returns to  
normal operation

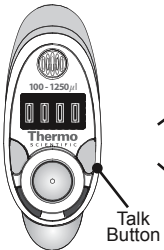
### D 3b. Add a Volume in the QUIK-set List

#### QUIK-set Mode

Select the  
desired volume  
on the display.



**Press and Hold  
the Talk button**  
until "QUIK" is  
displayed.



Continue holding the  
Talk button until  
"□ □ □ □" is displayed  
and a beep signals  
the volume has been  
added

If the list is not full, the  
current volume selection  
is added to the QUIK-set  
list and a beep signals the  
selection has been added to  
memory  
or

If this list is full, the current  
volume is rejected and  
a "FULL" message is  
displayed

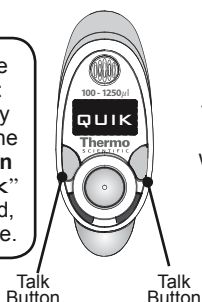
The pipette will  
return to normal  
operation

**\*Note:** Before a new volume can be added to  
a FULL list, a previously set volume must be  
deleted (see section D3d).

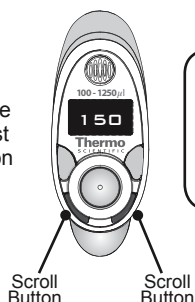
### D 3c. Select a Volume from an Established QUIK-set List

#### QUIK-set Mode

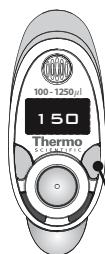
Access the **QUIK-set** volumes by **pressing the Talk button** until “**QUIK**” is displayed, then release.



The first volume in the **QUIK-set** list will appear on the display



Navigate through the **QUIK-set** list using the **Scroll buttons**



**Tap either Talk button** to select the desired **QUIK-set** volume

Talk Button

“**BUSY**” will display while the plunger moves to the selected volume.

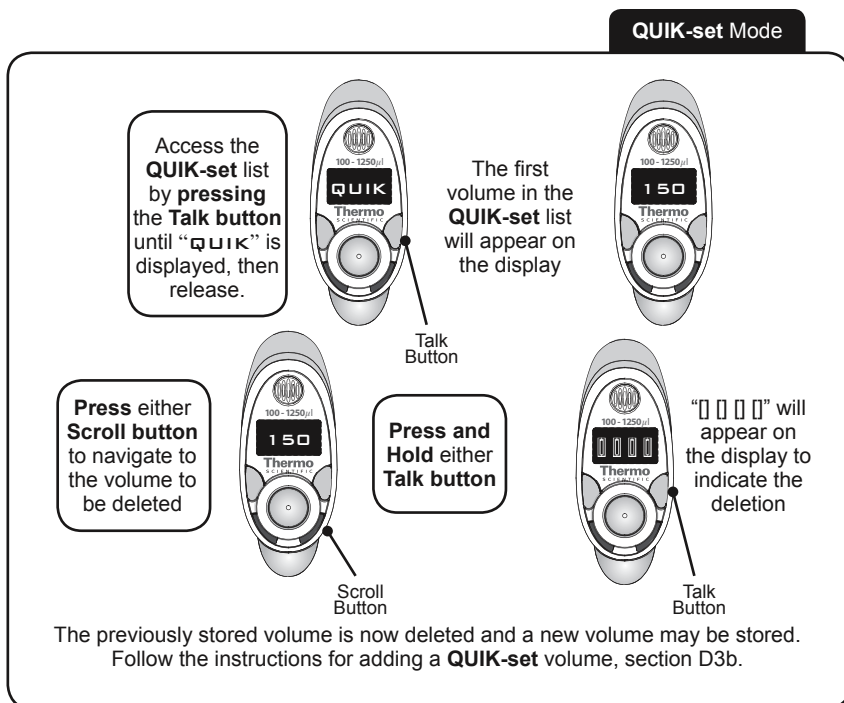


Once the plunger has completed volume adjustment, the selected volume will appear on the display and a single beep will indicate that it is ready to begin pipetting.



**\*Note:** Before a new volume can be added to a **FULL** list, a previously set volume must be deleted (see section D3d).

### D 3d. Delete a Volume from the QUIK-set List



## D 4. Turn on Voice Recognition Mode

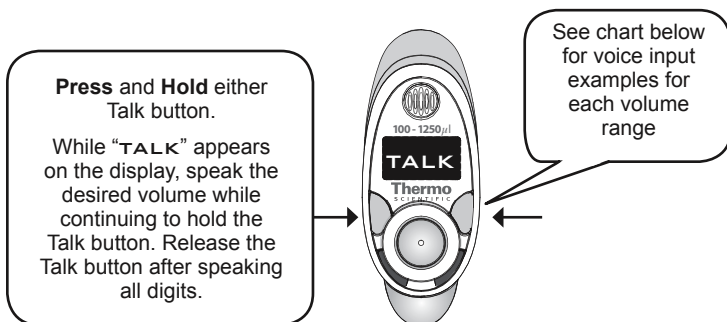
Voice Recognition (VR) and QUIK-set modes can not be in operation at the same time. Toggle between the two modes by accessing the main menu and turning off **QUIK-set** mode to enable the Voice Recognition.

Enable Voice Recognition by using the following steps:

- 1) Press both **Scroll buttons**, then **release**, to access the main menu.
- 2) Press either **Scroll button** to navigate to the **QUIK** option.
- 3) Press the **Talk button** to select the option.
- 4) Press either **Scroll button** to toggle to ‘Off’.
- 5) Press the **Talk button** to disable **QUIK-set** mode and enable **VR**.

## D 5. Set Volume Using Voice Recognition

Turn Voice Recognition on using the Main Menu options (see section D 4).

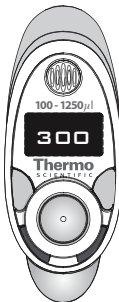


**Note:** In Speaker Dependent Mode, the pipette registers voice input differently. The pipette will prompt each digit with a single beep tone. Voice the desired digit after each beep.

**Ex. Press and Hold** Talk button - <beep> “1” <beep> “2” <beep> “3” <beep> “4”



“BUSY” will display while the plunger moves to the selected volume.



Once the plunger has completed volume adjustment, the selected volume will appear on the display and a single beep will indicate that it is ready to begin pipetting.

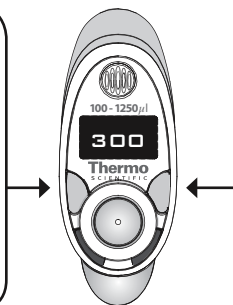
If the pipette cannot process the information an “ER 3” message will flash.



Scroll Button

**Tap** either **Scroll** button once to reset the error message. The pipette will return to the previous volume selection.

**Press and Hold** the Talk button to re-enter a new volume.



## Voice Recognition

**Note:** When the pipette indicates an “ER 3” message, press either Scroll button to reset the error message in order to continue (see section G 2. Fault Recovery for more details). Without resetting the error, attempting to Press and Hold the Talk button may result in continued errors.

Correct



**Correct** distance of pipette when using Voice Recognition.

Incorrect



**Incorrect** distance of pipette when using Voice Recognition.

Pipette Volume	Desired Volume	Voice Input	Display
0.5-12.5µl	0.5µl	“0-0-5-0”	00.50
	12.5µl	“1-2-5-0”	12.50
2-30µl	2.0µl	“0-2-0-0”	02.00
	30µl	“3-0-0-0”	30.00
10-125µl	10µl	“0-1-0-0”	010.0
	125µl	“1-2-5-0”	125.0
20-300µl	20µl	“0-2-0-0”	020.0
	300µl	“3-0-0-0”	300.0
100-1250µl	100µl	“0-1-0-0”	0100
	1250µl	“1-2-5-0”	1250



## E. Voice Recognition Menu

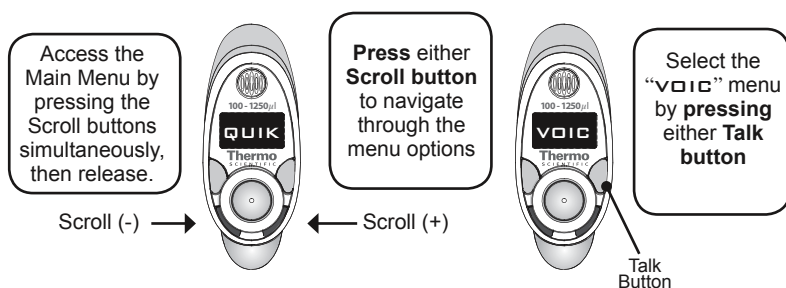
The Voice Recognition Menu is used to select the voice recognition language mode. The pipette has two voice modes, Speaker Independent and Speaker Dependent.

Speaker Independent Mode is for English speaking users using American, British or similar accents.

Speaker Dependent Mode allows the user to input any language, accent, or sound as a numeric value within the pipette's memory. Up to three users can store their individual voice patterns in the language memory locations **[USR1]**, **[USR2]** and **[USR3]**. These options will appear in the **[VOIC]** menu once trained using the corresponding "Learn" options **[LRN1]**, **[LRN2]** or **[LRN3]** (i.e. **[LRN1]** trains **[USR1]**, etc.). The user can access the language training by choosing the "Learn" options from the **[VOIC]** menu. (See section E 1 below for more details).

### E 1. Navigating the Voice Menu Options

When entering the Voice Menu, the first option "ENGL" will be displayed. Use the Scroll buttons to navigate through the Voice Menu and tap either Talk button to enter an option.



Option	Description
<b>ENGL</b>	Default voice recognition setting for any English speaking user <i>(Speaker Independent)</i>
<b>USR1</b>	Choose this option once the pipette is trained in Speaker Dependent Mode using [LRN1]. <i>(this selection is not available in this menu until the LRN1 training has been completed)</i>
<b>USR2</b>	Choose this option once the LRN2 feature has been trained <i>(this selection is not available in this menu until the LRN2 training has been completed)</i>
<b>USR3</b>	Choose this option once the LRN3 feature has been trained <i>(this selection is not available in this menu until the LRN3 training has been completed)</i>
<b>LRN1</b>	Enter this option to train the pipette for the USR1 location <i>(Speaker Dependent)</i>
<b>LRN2</b>	Enter this option to train the pipette for the USR2 location <i>(Speaker Dependent)</i>
<b>LRN3</b>	Enter this option to train the pipette for the USR3 location <i>(Speaker Dependent)</i>
<b>NONE</b>	Disable the voice recognition mode
<b>EXIT</b>	Exit this menu

## E 2. Speaker Dependent Training Sequence

In order to input a new language in Speaker Dependent Mode, select the [LRN1], [LRN2] or [LRN3] option from the [VOIC] Menu options (see sections E and E 1. above). The pipette will begin a training sequence prompting the user to input new commands for each digit from 0 through 9. The pipette is capable of storing up to 3 different user profiles that will best respond to that individual (other users may experience non-optimal performance while these speaker dependent settings are in use).

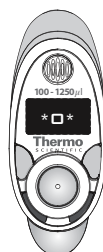
### Voice Mode

Navigate through the "VOIC" menu using the **Scroll buttons** to locate the "LRN 1" (or "LRN 2" or "LRN 3") option and **select** it by tapping the **Talk button** once.



Scroll Button

"0" is the first digit displayed for training.

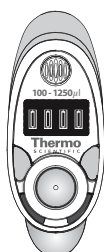


**Press and Hold the Talk button** until you see "TALK" on the display, then release.



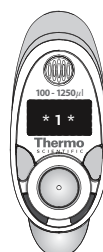
Talk Button

The pipette will prompt your voice input with a beep. Speak the indicated digit in the language of choice. The pipette will prompt you 2-3 times to make sure it understands your voice input correctly.



The screen will display "□ □ □ □" to indicate the pipette is processing the information.

The next digit in the sequence is displayed



Continue this process until all digits have been trained from 0-9

## F. Calibration

The Hybrid pipette has two calibration modes, **[CAL1]** for one point calibration and **[CAL2]** for two point calibration.

One-Point calibration is used when pipetting a specific volume consistently. When **[CAL1]** is selected, the pipette will assume that the current volume is the desired One-Point calibration volume. Make sure you have selected your volume prior to entering the Main Menu options.

Two-Point calibration is used when the pipette will be used for more than a single volume. Two-Point calibration **[CAL2]** is the factory default setting for all pipette models (dH<sub>2</sub>O at 21°C and 50% humidity).

**[CALF]** mode resets the pipette to factory default calibration.

### F 1. One-Point Calibration

1. Use the Scroll buttons to select the desired volume for One-Point calibration.
2. In the Main Menu options (see section D 2.) navigate with the Scroll buttons and select **[CAL1]** by tapping either Talk button once.

The pipette will issue a single beep and begin alternating the display between the “CAL1” status message and the calibration volume. This will continue until the calibration results are entered below in Step 3.

**Note:** To terminate the calibration sequence, tap either Talk button (do not adjust displayed value with the Scroll buttons or calibration will be altered). The pipette will return to standard operation without making a change in calibration.

3. Collect 10 samples, weigh each result and determine the average.
  - a. If necessary, adjust the calibration value by using either Scroll button until the desired value appears (i.e. your calculated average). Tap the Talk button once; the pipette will process the value.
  - b. If there is no adjustment necessary, tap the Talk button once. The pipette will return to standard operation without making a change in calibration.
    - When the calibration results are stored, a beep will sound and the pipette will display “DONE” to complete the sequence.

## F 2. Two-Point Calibration

1. In the Main Menu options (see section D 2.) navigate with the Scroll buttons and select **[CAL2]** by tapping either Talk button once.

- The pipette will drive the piston assembly to the first calibration position while displaying a “BUSY” message.
- An alternating “PT 1” and “calibration value” is displayed. It will continue to alternate until all calibration results are entered below in Step 2. (If the results are not entered within 30 minutes, the pipette will return to the previous calibration settings.)

**Note:** To terminate the calibration sequence, tap either Talk button (do not adjust displayed value with the Scroll buttons or calibration will be altered). The pipette will return to the previous calibration settings.

2. Collect 10 samples, weigh each result, and determine the average.

- a. If necessary, adjust the [calibration value] by using either Scroll button until the desired value appears (i.e. your calculated average). The “PT 1” status message disappears as you begin to scroll to the [calibration value]. Tap the Talk button once; the pipette will process the new calibration value.

- b. If there is no adjustment necessary then tap the Talk button once. The pipette will return to standard operation without making a change in calibration.

- The pipette will drive the piston assembly to the second calibration position while displaying a “BUSY” message.
- An alternating “PT 1” / “calibration value” is displayed. It will remain until all calibration results are entered below in Step 3. (If the results are not entered within 30 minutes, the pipette will return to the previous calibration settings.)

3. Collect 10 samples, weigh each result, and determine the average.

- a. If necessary, adjust the [calibration value] by using either Scroll button until the desired value appears (i.e. your calculated average). The “PT 2” status message disappears when you begin to scroll to the **[calibration value]**. Tap the Talk button once; the pipette will process the new calibration value.

- b. If there is no adjustment necessary then tap the Talk button once. The pipette will return to standard operation without making a change in calibration.

When the calibration results are stored, a beep will sound and the pipette will display “**DONE**” to complete the sequence.

## G. Troubleshooting and Maintenance

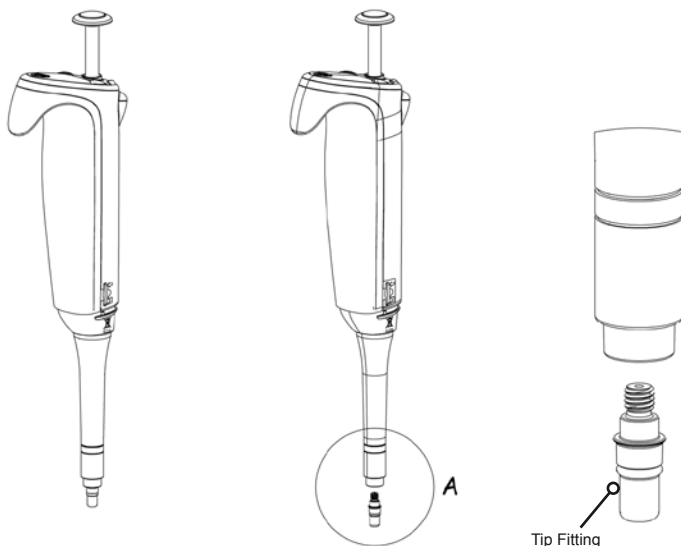
### G 1. Pipette Maintenance and Cleaning

The exterior can be wiped clean periodically with a soft cloth moistened with methyl alcohol.



**CAUTION!!! DO NOT AUTOCLAVE** entire unit or clean the keypad with bleach solution or other solvents. Extreme heat can damage the display and other components. Caustic cleaning solutions can damage the keypad.

**Note:** The tip fitting(s) can be easily unscrewed in order to be autoclaved or replaced.



2300	ClipTip Fittings	1250 $\mu$ l	Pack of 24
2301	ClipTip Fittings	125-300 $\mu$ l	Pack of 24
2302	ClipTip Fittings	30 $\mu$ l	Pack of 24
2303	ClipTip Fittings	12.5 $\mu$ l	Pack of 24

## G 2. Fault Recovery

- a. If a non-critical error condition is being reported, clear the error by tapping any Scroll buttons.
- b. If a critical error condition is being reported, clear the condition by pressing the left and right Talk button simultaneously for five seconds. This will trigger the pipette to clear the error and perform an initialization sequence. If no further errors are detected, the pipette will return to its previous state before any errors occurred.

## G 3. Troubleshooting

### Error code list

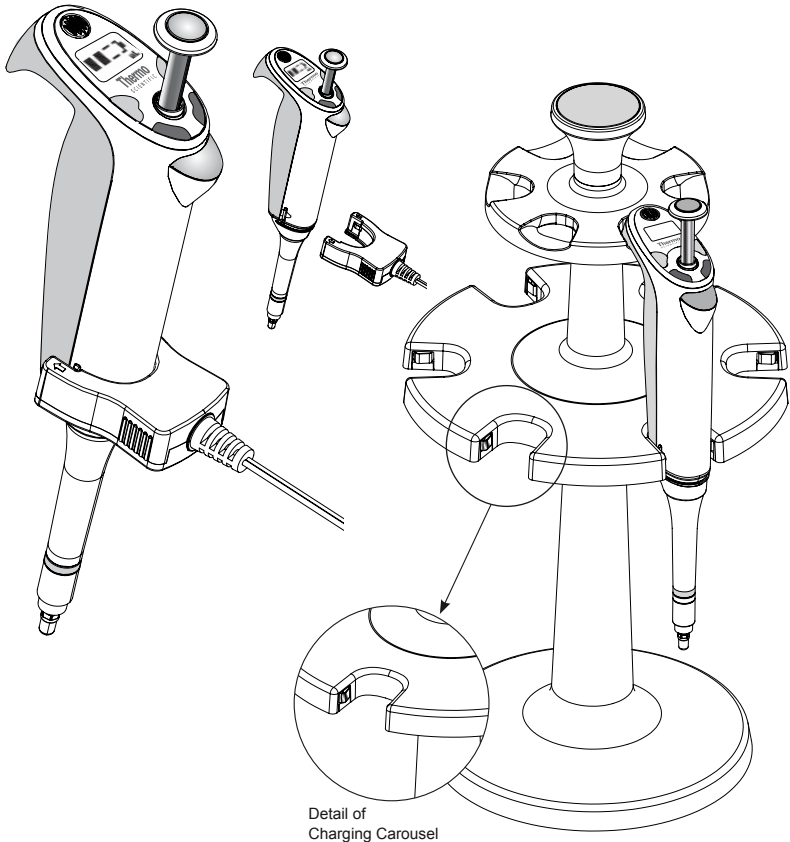
Error Code	Type	Indication
ER 1	User	Time Out; sequence aborted because of User inactivity.
ER 2	User	Calibration entry invalid; the value exceeds the defined min./max. limit for the product version.
ER 3	User	Volume entry invalid; the value exceeds the defined min./max. limit for the product version. This will only happen while in voice recognition mode.
ER 4	Device	Mechanism jam condition.
ER 5	Device	Mechanism positioning error.
ER 6		Undefined.
ER 7		Undefined.
ER 8	Device [Critical]	Electronics Fault.
ER 9	Device [Critical]	Voice Recognition mode is unavailable or the circuitry is not functioning.
<b>low batt</b>	Device	Low Battery.
* * [Critical Msg. Ind. ]	Device	Critical Message Indicator. Alternates with normal display to indicate importance. See next item as an example.
* * alt with <b>low batt</b>	Device [Critical]	Depleted battery.

## G 4. Recharging the Batteries



The Hybrid pipette is equipped with a factory installed, rechargeable, long-lasting Lithium-Ion battery. It allows for long life between charges with no battery memory effect (reduced battery capacity) associated with other battery types. The charging contacts on the pipette can be used with the provided Universal Power Supply w/ Charge Clip (Part No. 1092) or with the Revolving Carousel Charge Stand (Part No. 1091).

Charge the pipette for 2 hours for a complete charge (80% charge after 1 hour). Simply connect the charging contacts of the pipette to the Power Supply or Carousel. A flashing battery light will appear on the LCD screen to indicate the battery is charging.





**WARNING!** Ensure that the charge clip or carousel power transformer is connected to a power receptacle that provides voltage and current specified by Thermo Scientific. Use of an incompatible power receptacle can cause shock and fire hazard.

## H. Appendices

### H 1. Calibration Suggestions

- ✓ **Calibrate the pipette for the liquid.** Hybrid pipettes are factory calibrated to deliver accurate volumes with distilled water at 21°C and 50% humidity. Other liquids have their own unique specific gravity and vapor pressure. By using the calibration procedures described in section F, you can pipette different liquids with a higher degree of accuracy and reproducibility.

### H 2. Pipetting Suggestions

- ✓ **Pipette at a constant temperature.** Allow liquids and equipment to equilibrate to ambient temperature. Volume aspiration with air displacement pipettes varies with air pressure, relative humidity and vapor pressure of the liquid, all of which are temperature dependent.
- ✓ **Attach tips with slow even pressure.** When applying ClipTips, avoid 'banging' or applying excessive force to the tip(s). ClipTips have been specifically designed to match the tip fittings on Hybrid pipettes.
- ✓ **Pre-wet the pipette tip.** Aspirate and dispense two to five times before aspirating the liquid to increase humidity within the tip, this will reduce sample evaporation that may result while pipetting lower volumes. This technique is useful when pipetting liquids that have low vapor pressure and/or high surface tension.
- ✓ **Immerse tips fully.** This will avoid aspiration of unwanted air and the clinging of excess droplets to the outside of the tip. Tips should be immersed approximately 1/4 inch (0.6 cm) below the meniscus and away from the container surfaces.
- ✓ **Use consistent plunger speed.** The Hybrid pipette, like all precision instruments, will generate more reproducible results when operated with attention to detail and proper technique. Depress and release the plunger smoothly and with consistent speed when dispensing each sample.

- 
- ✓ **Pause consistently.** Pause with the tip in the liquid for about one second after aspirating the sample to allow the liquid enough time to finish moving into the pipette tip after the plunger stops. Otherwise, the volume will be lower than it should be.
  - ✓ **Tip touching.** During the dispensing of a liquid, touch the tip against the side of the receiving container to prevent any liquid from remaining on the tip.

## Technical Support

Please contact technical support direct in North America at 888-363-6631 or [matrix.technicalservice@thermofisher.com](mailto:matrix.technicalservice@thermofisher.com), and in Europe at +44 (0) 161 486 2112 or [matrix.eu.support@thermofisher.com](mailto:matrix.eu.support@thermofisher.com)

## Warranty

The Hybrid pipette is warranted to the original purchaser by Thermo Fisher Scientific Inc to be free of defects in materials and workmanship for a period of twelve (12) months from the date of purchase, providing that it has been operated according to the instructions, not abused or misused, that the serial number has not been removed, and that the instrument has not been disassembled (except the tip fitting for autoclaving). No other warranty is expressed or implied. Upon receipt of your instrument, please complete and return the warranty card.

No pipette should be returned without a prior Return Good Authorization from Thermo Scientific. Should a unit need to be returned, contact technical support: **888-363-6631** for instructions.

Noth America	888.363.6631
Europe	+44 (0) 161 486 2112
Asia	<a href="mailto:asia@matrixtechcorp.com">asia@matrixtechcorp.com</a>

## Recommended Equipment Decontamination Methods

The following table lists the proper decontamination procedures for returning equipment to Thermo Fisher Scientific for service.

Product/Component	Heat at 65°C/ 10 Hr.	70%/30% IPA/Water	10% Bleach	Ethylene Oxide	Autoclave 121°C/ 15 min.
<b>Multichannel Matrix Electronic Pipettes</b>					
Housing Exterior	YES	Wipe	Wipe	YES	NO
Piston/Cylinder Assembly	YES	YES	NO	YES	YES
Tip Manifold	YES	YES	NO	YES	YES
Battery	NO	Wipe	NO	NO	NO
Power Supply	NO	Wipe	NO	NO	NO
<b>Single Channel Matrix Electronic Pipettes</b>					
Pipette w/Battery Removed	Yes	Wipe	Wipe	YES	NO
Lower cylinder	YES	YES	YES	YES	YES
Piston (do not remove)	YES	YES	NO	YES	NO
Power Supply	NO	Wipe	NO	NO	NO
<b>Matrix Hybrid Pipettes</b>					
Housing Exterior	YES	Wipe	Wipe	YES	NO
Power Supply	NO	Wipe	NO	NO	NO
<b>Matrix Memowell</b>					
Power Supply	NO	Wipe	NO	NO	NO
Housing Exterior	YES	Wipe	NO	YES	NO
<b>Matrix Manual Pipettes</b>					
Lower assembly	YES	Wipe	NO	YES	YES
Housing Exterior	YES	Wipe	Wipe	YES	NO
<b>Matrix Serological Pipettes</b>					
Nosecone	YES	YES	YES	YES	YES
Silicone Rubber Holder	YES	YES	Wipe	YES	YES
Filter	Replace	Replace	Replace	Replace	Replace
Battery	NO	Wipe	NO	NO	NO
Power Supply	NO	Wipe	NO	NO	NO
Housing Exterior	YES	Wipe	NO	NO	NO

**WARNING:** Do not expose batteries to temperatures above 60° C.

---

Equipment Decontamination Verification Form

Serial # \_\_\_\_\_

RP# \_\_\_\_\_

PO# \_\_\_\_\_



Prior to service of equipment that may be contaminated with biohazardous materials, potentially biohazardous materials or radioactivity, the user must first decontaminate it. This decontamination procedure will include the following as appropriate (please check one):

☐ This equipment has not been used in a laboratory/location exposing it to biohazards or radioactive materials.

☐ This equipment was APPROPRIATELY DECONTAMINATED\* FROM BIOHAZARDOUS MATERIALS WITH: \_\_\_\_\_

\*Example: Autoclave, 10% Bleach, Ethylene Oxide.

Instruments must be decontaminated both externally and internally.

☐ This equipment was APPROPRIATELY DECONTAMINATED & TESTED FOR RADIOACTIVITY\* BY: \_\_\_\_\_

\*Example: wipe test with results (3H, 14C, a-emitters), Geiger counts, etc.

NAME (print) \_\_\_\_\_

PHONE # \_\_\_\_\_

SIGNATURE \_\_\_\_\_

DATE \_\_\_\_\_

Federal regulations require that all instruments sent for service shall be free of radioactivity and biohazards. The Technical Service group reserves the right to refuse to work on this equipment if these procedures are not performed.

Customer Return Shipping




Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Return fax# 603-577-7682

FRM029 Rev. D

# Safety Testing of our Products

The products listed below have passed the required safety tests for electrical products for the approvals and marks mentioned.

Product	Approval mark	Directive	Standard	Transformer Item #
Hybrid Pipette		73/23/EEC Low Voltage	EN61010-1:1993 Safety regulations	6099, 6096, 1096, 1099, 9068, 1092
		89/336/EEC Electromagnetic compatibility	EN55022 / EN55011-1 Emissions  EN50082-1:1992 Immunity	
			EN60825	6098, 1098/1097, 9068, 1092
		Law No.234, Electrical Appliance and Material Safety Law, Japanese Ministry of Economy, Trade and Industry.	DENAN	6098, 1098/1097, 9068, 1092

# Hybrid Pipetting System Compatibility Chart

Tips packed 10 racks of 96.

## Hybrid Pipettes

Tip Volume	Range	Single Channel	8-Channel	12-Channel
● 12.5µl	0.5-12.5µl	1081	2310	2320
● 30µl	2-30µl	1082	2312	2322
● 125µl	10-125µl	1083	-	-
● 300µl	20-300µl	1084	2315	2325
● 1250µl	100-1250µl	1085	-	-

## Compatible ClipTips

Bulk	Non-sterile Racked	Sterile Racked	Filter/Sterile Racked
7120▲	7121	7122	7165
7120▲	7121	7122	7175
7130◆	7131	7132	7135
7130◆	7131	7132	7135
7140◆	7141*	7142*	7145*

◆ Bulk, 500 tips

▲ Bulk, 1000 tips

\* 8 Racks of 96 tips

## order.online

It's easier than ever to order Thermo Scientific Matrix products online with a credit card or purchase order. Choose from our complete line of pipettes, pipette tips, microplates, and tubes at:

[www.thermo.com/matrix](http://www.thermo.com/matrix)

## Pipette Service and Repair

Expert Calibrations, Preventive Maintenance, and Repair Services

Our factory-trained, certified technicians perform electronic and manual pipette services. Simply ship one or multiple pipettes in a pre-paid pipette service box to our facility. Most calibrations are performed in less than 48 hours. Our expertise extends to all pipettes in the industry, from any brand, model, or manufacturer. In North America, contact us at [matrix.technicalservice@thermofisher.com](mailto:matrix.technicalservice@thermofisher.com) or 888.363.6631 to get your free shipping packages.



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Europe: Tel: +44 (0) 161 486 2110 | email: [matrix.eu.info@thermofisher.com](mailto:matrix.eu.info@thermofisher.com)  
Asia: email: [matrix.ap.info@thermofisher.com](mailto:matrix.ap.info@thermofisher.com)  
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