

PIPETTE LIKE A PRO

FOR FURTHER
INFORMATION
AND/OR SAMPLE
ORDERING

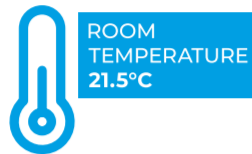
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SAPPHIRE

Pipette Tips & Pipettes

1

BEFORE YOU START



ROOM
TEMPERATURE
21.5°C

- Choose the pipette with the best fitting volume range. Avoid volumes at the lower range of the pipette.
- Make sure that your pipette is calibrated with the tips that you are using (see User Guide, chapter 5: user adjustment).
- Your pipette and samples should be equilibrated to the temperature of the room you are working in.

! Differences in temperature induce a volume contraction or expansion of the air cushion inside the pipette and the pipette tip. This effect can have a negative impact on the accuracy and precision of the sample dispense.

2

SETTING THE VOLUME



Set the volume by turning the push button. To obtain maximum accuracy, proceed as follows:

- When decreasing the volume setting, slowly turn until you reach the required value.
- When increasing the volume setting, pass the required value by 1/3 of a turn and then slowly decrease to reach the required value.

! Make sure not to overshoot the mark! To avoid internal damage to your pipette, never attempt to force the volume setting beyond the limits.

3

ASPIRATION

- Load the tip onto your Sapphire pipette. Press down gently but firmly to ensure a tight seal of the tip on the tip holder. Avoid hard and/or repeated tapping to protect your pipette.
- Press the push button to the first stop, hold the pipette vertically (pipetting angle <math>< 20^\circ</math>) and immerse the tip in the liquid to an adequate depth.
- Release the push button slowly and smoothly and wait 1 to 5 seconds, then withdraw the pipette tip vertically from the liquid. While removing the pipette, place the end of the tip shortly against the inner surface of the vessel. Check the tip for aspirated air.

Volume	Immersion depth [mm]	Wait time [seconds]
0.1 - 1 μ l	1	1
1 - 100 μ l	2 - 3	1
101 - 1000 μ l	2 - 4	2 - 3
1001 μ l - 10 ml	3 - 6	4 - 5

! Carefully operate the push button to avoid the aspiration of air, the splashing of liquid or even entering of liquid into the tip holder.

4

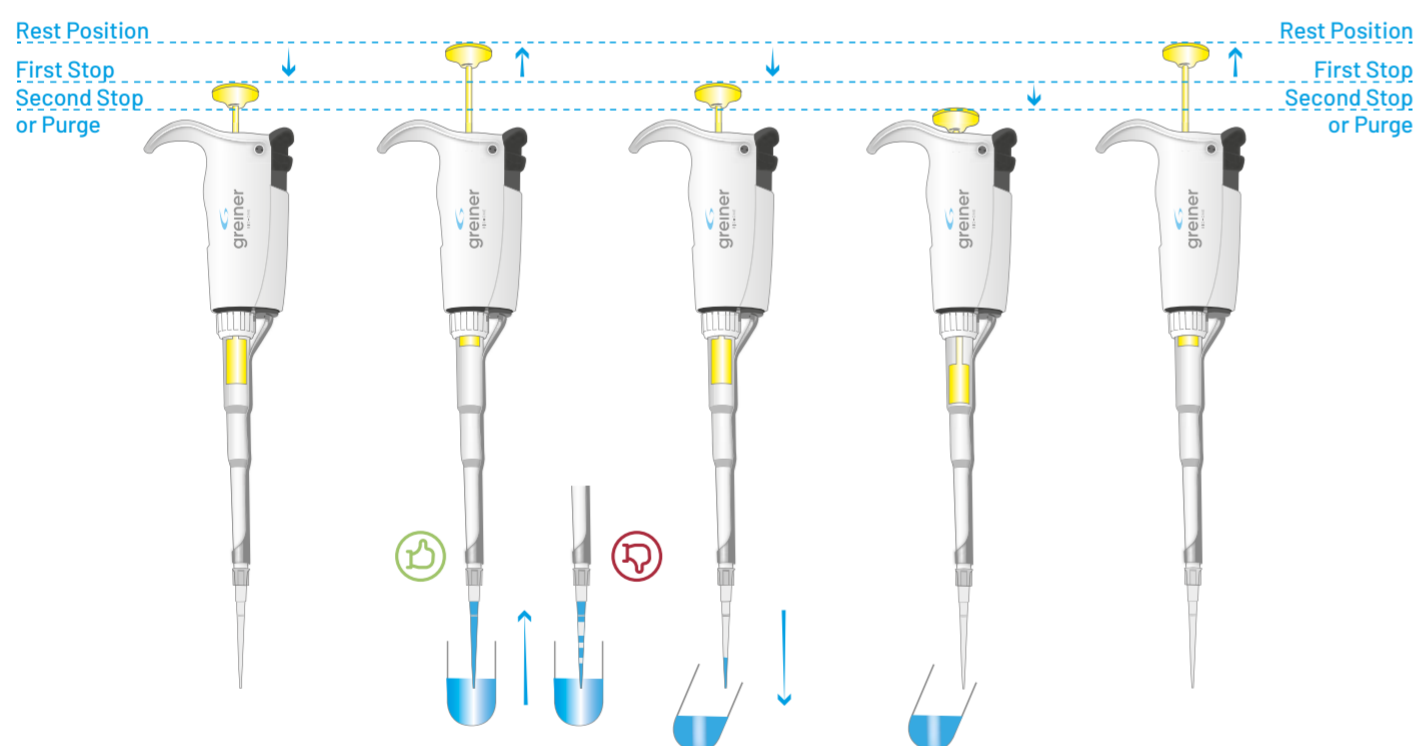
DISPENSING

- Place the end of the tip at an angle of 10° to 40° against the inside wall of the recipient vessel.
- Press the push button slowly and smoothly to the first stop and wait for at least a second.
- Press the push button to the second stop to remove any remaining sample.
- Keep the push button pressed fully down and draw the tip along the inner surface of the vessel while removing the pipette.
- Release the push button smoothly and eject the tip by pressing firmly on the tip ejector button.

PIPETTING PROCESS

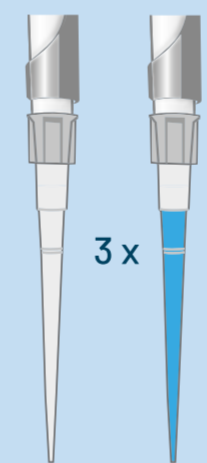
ASPIRATION

DISPENSING



PRE-WET TIPS UP TO 3 TIMES

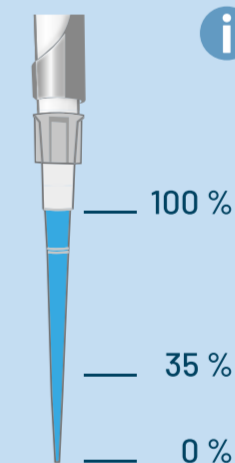
After loading the tip onto your Sapphire pipette, aspirate and dispense the nominal volume 3 times in order to equilibrate temperature differences and humidify the dead air space inside pipette and pipette tip.



i This simple "pre-wetting-procedure" prevents that your first few dispenses deliver less volume due to evaporation effects. Another risk that is accompanied by evaporation is an increase in vapour pressure so that liquid is forced outside the tip which can result in droplet formation at the tip end.

PIPETTING VOLUME RANGE

In order to reduce user-related pipetting errors (when using an air-displacement pipette), pipette in between 35 and 100 % of the nominal volume range.



i Pipetting within an optimal volume range simply reduces user-related pipetting errors and thereby ensures consistently optimal results.

GENERAL GUIDELINES



Please use each tip only once.



Never turn the pipette upside down or place it on the table when there is liquid inside the tip.



Check the performance of your pipette regularly.



Saturate the air cushion of your pipette by aspirating and dispensing the volatile solvent repeatedly before aspirating the sample.



After pipetting acids or other corrosive liquids, remove the tip ejector, tip holder and rinse, dry and lubricate the piston.



Avoid pipetting of liquids with temperatures above 70°C or below 4°C .

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User Guide for
Sapphire Pipettes.


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