

Serological Pipets

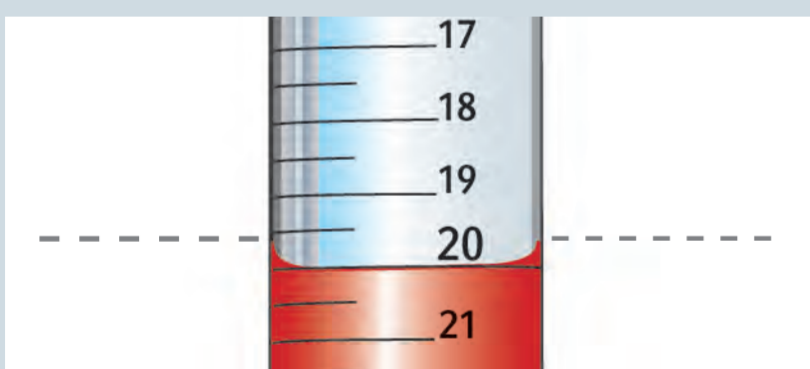
Why extra graduation and space?

Historical background: Before the invention of the Peleus ball in the early 20th century scientist were pipetting by mouth. For security reasons the distance between the first graduation and top of the pipette needed to be long enough for the scientist to see the first graduation. Additionally some cotton wool was used to prevent accidental liquid intake. Nowadays the pipettes still have this security distance and filters to protect the pipet helper.



How to handle the pipette

Unpack the pipette from the upper end to keep the tip sterile as long as possible. Attach the pipette to a pipet helper and immerse the tip into the liquid. Aspirate and dispense liquid 2-3 times to pre-wet the inside of the pipette. Aspirate the desired liquid volume and hold the pipette at eye level. The meniscus must be right on the desired graduation mark. Dispense the complete liquid into the target vessel with contact to the vessel wall. Perform a blow-out to ensure complete liquid delivery.



2 scales

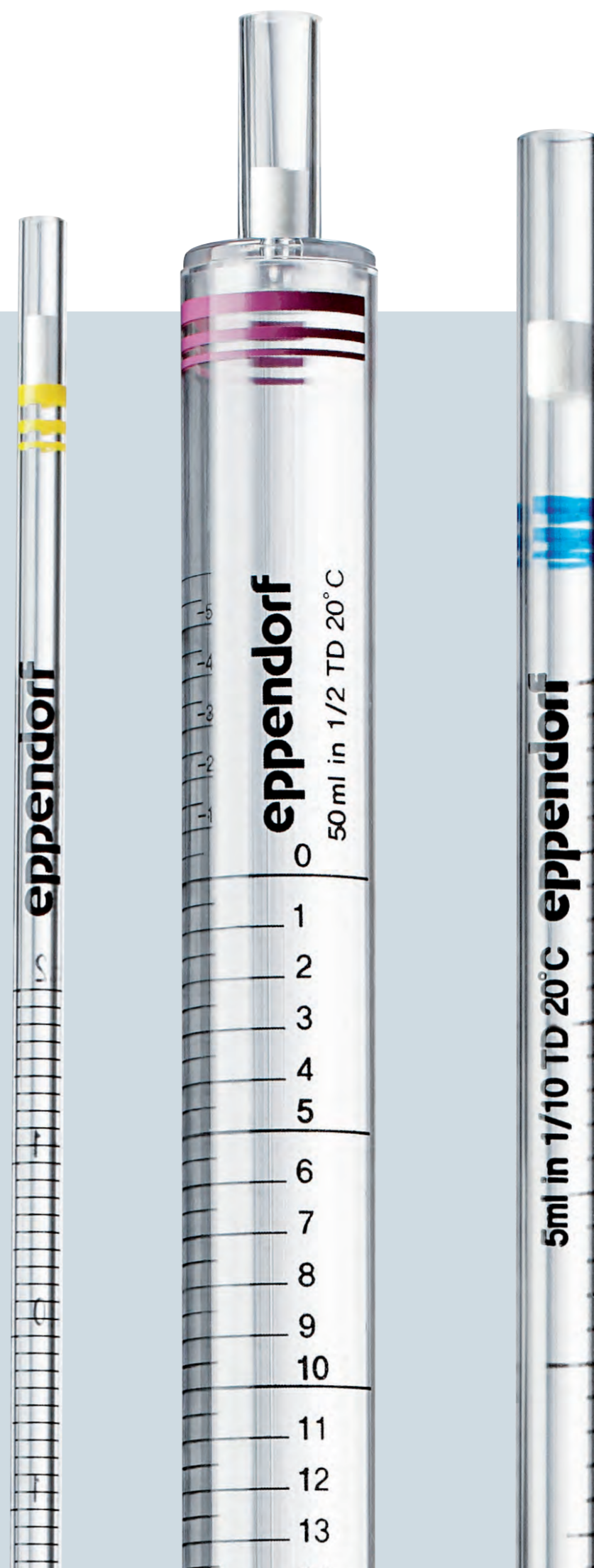
10 mL on top = forward pipetting: the desired liquid volume is defined during aspiration and the pipette is emptied completely; best for aqueous solutions

0 mL on top = reverse pipetting: More liquid than needed is aspirated and only the desired volume is dispensed. Residual liquid is either discarded or refilled in the storage bottle; best for viscous and volatile solutions

Glass or plastic?

Glass: for aggressive acids and bases that attack plastic materials

Plastic: disposable; for infectious liquids such as blood, serum, or chemicals compatible with plastics



Pipet Helper

Nowadays most common are electronic pipet helper that simplify aspiration and dispensing of liquid with serological pipets. Easy handling and intuitive speed control can increase your throughput.

With Eppendorf Easypet® 3 pushing the operation buttons slightly leads to slow aspiration and dispensing speed while pushing more intensely increases speed. Pre-selecting speed levels is past!



Video Eppendorf Easypet® 3
Intuitive handling - aspirating, dispensing, maintenance
www.eppendorf.com/easypet3-video



One or multiple rings on top?

One ring: Flow-out pipette; let the liquid drain out and discard the residual liquid in the tip

Multiple rings: Blow-out pipette; the last drop is dispensed via blow-out

TC or TD?

TC = to contain; the pipette is calibrated to contain a defined amount of liquid, but dispenses less; residual liquid remains on the inside wall of the pipette

TD = to deliver; the pipette is calibrated to deliver a defined amount of liquid; residual liquid is included; only aqueous solutions



Different pipette types

Mohr/Graduated: Graduation stops above tip end and residual liquid shall not be dispensed

Serological: Graduation goes down to tip end, last number is not shown; blow-out is mandatory to deliver all liquid

Ostwald-Folin: Bulb at the lower end of pipette, one fixed volume, blow-out is mandatory, mainly for viscous solutions such as blood, or serum

Volumetric: Bulb in the middle of pipette, fixed volume, let pipette drain out, no blow-out, only for aqueous solutions

