

# Titrette® Bottletop Burette

The BRAND Titrette® bottletop burette makes routine titrations faster, easier, and more accurate. The Titrette® avoids the risk of spills from poured transfers to glass or plastic burettes, eliminates meniscus reading errors and offers accuracy that satisfies the tolerances for Class A glass burettes. The instrument is well suited for general chemistry, water treatment applications, food/beverage analysis, industrial titrations, and environmental work in the lab or field.

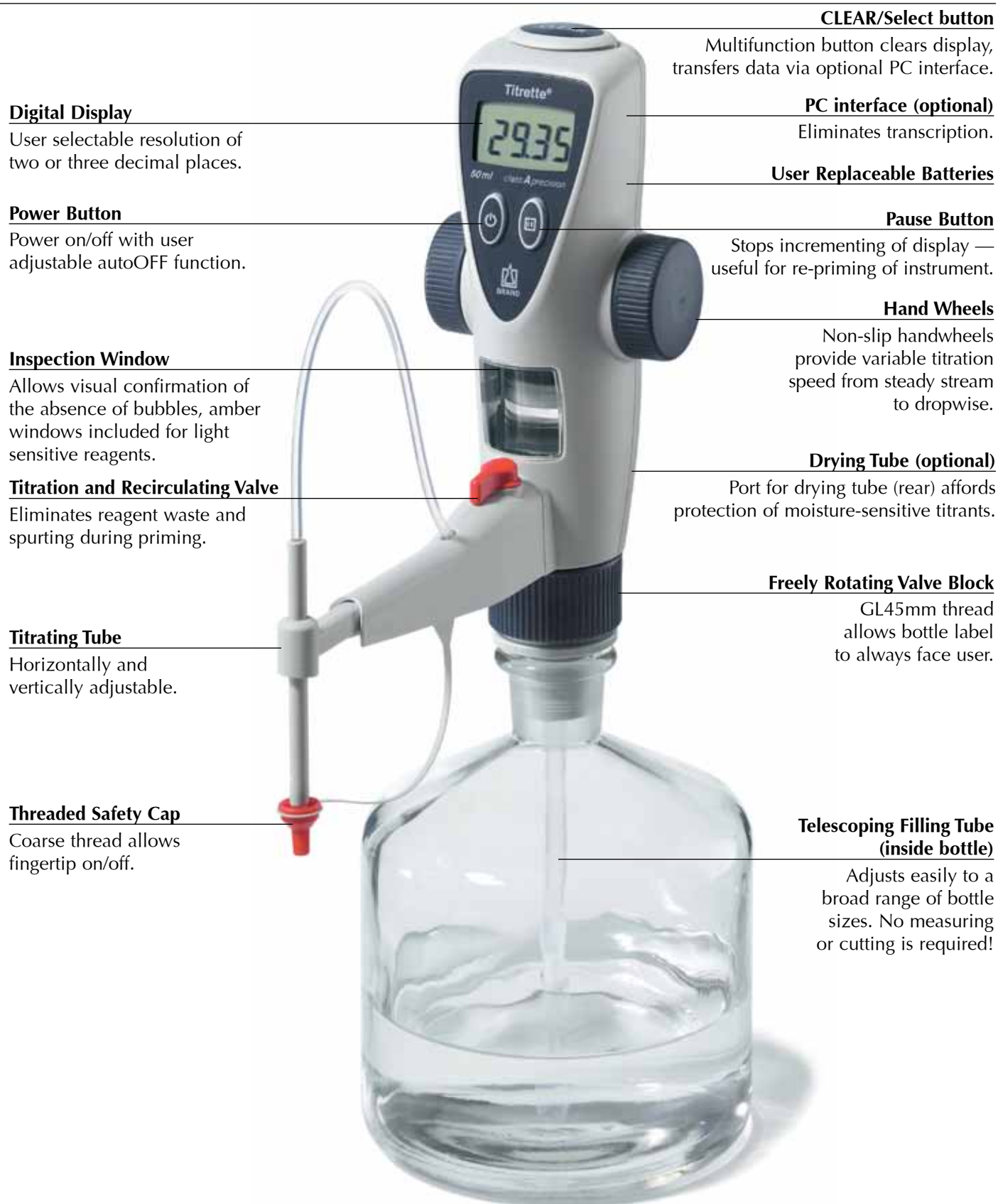
- **High Accuracy:** Precise titrations within the error limits of Class A glass burettes.
- **Smooth Operation:** Mechanism fills and titrates smoothly and easily, for exceptionally sensitive drop-wise titrations.
- **Compact Design:** The Titrette® operates in a fixed position on top of titrant bottles. The low-profile design is stable and fits readily under shelves and cabinets.
- **Easy Handling:** The Titrette® switches automatically between filling and titrating modes. The titrating tube adjusts vertically and horizontally to match receiving vessels, and operation is cordless, using economical commercial batteries that are protected from corrosive vapors.
- **Simple Maintenance:** The Titrette® can be disassembled for cleaning, ensuring long, reliable service even with crystallizing titrants. Easy Calibration™ technology simplifies ISO/GLP compliance.
- **Special Options:** Amber windows (included) protect light-sensitive reagents. Optional drying tube protects moisture-sensitive titrants.
- **PC Interface:** Models available with direct data transmission to a PC.



**The World's Only Bottletop Burette  
With Class A Precision.**



## Titrette® bottle-top burette



### Digital Display

User selectable resolution of two or three decimal places.

### Power Button

Power on/off with user adjustable autoOFF function.

### Inspection Window

Allows visual confirmation of the absence of bubbles, amber windows included for light sensitive reagents.

### Titration and Recirculating Valve

Eliminates reagent waste and spurting during priming.

### Titrating Tube

Horizontally and vertically adjustable.

### Threaded Safety Cap

Coarse thread allows fingertip on/off.

### CLEAR/Select button

Multifunction button clears display, transfers data via optional PC interface.

### PC interface (optional)

Eliminates transcription.

### User Replaceable Batteries

### Pause Button

Stops incrementing of display — useful for re-priming of instrument.

### Hand Wheels

Non-slip handwheels provide variable titration speed from steady stream to dropwise.

### Drying Tube (optional)

Port for drying tube (rear) affords protection of moisture-sensitive titrants.

### Freely Rotating Valve Block

GL45mm thread allows bottle label to always face user.

### Telescoping Filling Tube (inside bottle)

Adjusts easily to a broad range of bottle sizes. No measuring or cutting is required!

## Titrette® bottle-top burette

### Easy Handling



#### Smooth operation

The large, easy-to-grip hand wheels provide exceptionally smooth operation. With the optimized gear ratio, you can fill the device quickly and titrate dropwise with great sensitivity.

#### Class A precision

The Titrette® bottle-top burette has an innovative new measuring system which matches the Class A error limits of glass burettes according to ISO 385 and volumetric tolerances per ASTM E287. If needed, it can display 3 decimal places for volumes below 20mL.

#### No switching needed

To change between filling and titration, no switching is needed. The instrument automatically detects whether you are filling or titrating by the direction of hand wheel rotation, greatly reducing the risk of handling errors. Pressing the Pause button allows you to interrupt the titration if priming was incomplete. Simply push the button again to resume titration.

#### Lightweight and compact

All components move within the housing, reducing headroom requirements. The compact design and the light weight ensure good stability. The titrating tube can be adjusted horizontally and vertically. This provides flexibility when positioning the instrument, e.g., when using a magnetic stirrer or different bottle sizes.

### Chemical Applicability

The Titrette® is suitable for use with the following titrating agents up to a concentration of 1mol/L

|  |  |  |
|--|--|--|
| Acetic acid                            | Nitric acid                            | Sodium arsenite solution                 |
| Alcoholic potassium hydroxide solution | Oxalic acid solution                   | Sodium carbonate solution                |
| Ammonium iron (II) sulfate solution    | Perchloric acid                        | Sodium chloride solution                 |
| Ammonium thiocyanate solution          | Perchloric acid in glacial acetic acid | Sodium hydroxide solution                |
| Barium chloride solution               | Potassium bromate bromide solution     | Sodium nitrite solution                  |
| Bromide bromate solution               | Potassium bromate solution             | Sodium thiosulfate solution              |
| Cerium (IV) sulfate solution           | Potassium dichromate solution          | Sulfuric acid                            |
| EDTA solution                          | Potassium hydroxide solution           | Tetra-n-butylammonium hydroxide solution |
| Hydrochloric acid                      | Potassium iodate solution              | Triethanolamine in acetone               |
| Hydrochloric acid in acetone           | Potassium permanganate solution        | Zinc sulfate solution                    |
| Iodine solution                        | Potassium thiocyanate solution         |  |
| Iron (II) sulfate solution             | Silver nitrate solution                |  |

This partial list reflects testing completed prior to publication of this catalog. For information on reagents not listed, please contact us.

## Titrette® bottle-top burette

*Additional Features***User servicable**

The Titrette® can be disassembled quickly and easily — in a matter of minutes — for cleaning, to replace the piston/cylinder, or to replace the batteries. Now you can carry out maintenance conveniently and easily in the lab, and in a few minutes the instrument is ready to go again!

**Light protection**

For protection of light-sensitive media, you can replace the clear inspection windows with the included amber colored windows. It's quick and easy, because the windows just clip into place.

**Adjustment with Easy Calibration™**

With Easy Calibration™ technology, you can easily make calibration adjustments of the instrument “at the push of a button.”

**Two or Three Decimal Places**

For use as a micro-burette, you can switch the titrated volume display from 2 to 3 decimal places under “dP” (decimal point). Above 20.00mL, the display automatically switches to 2 decimal places.

**Auto Power Off**

User adjustable power-off time from 1 to 30 minutes.

**Calibration schedule**

To save a date for the next calibration, simply store it under “GLP”. The date can be called up each time the instrument is turned on.

## Titrette® bottle-top burette

### Technical data

#### Operating limits and exclusions

This instrument is designed for titrating liquids, observing the following limits:

- Temperature of instrument and reagents must be between 15° and 40°C (59° and 104°F)
- Vapor pressure up to 500mbar
- Viscosity up to 500mm<sup>2</sup>/s
- Altitude: maximum 3000m above sea level
- Relative humidity: 20% to 90%

#### Chemically resistant materials

When the instrument is properly handled, dispensed liquid will only come into contact with the following chemically resistant materials: borosilicate glass, Al<sub>2</sub>O<sub>3</sub>, ETFE, PFA, FEP, PTFE, platinum-iridium; PP (screw cap).

#### Limitations of use

- Chlorinated and fluorinated hydrocarbons or chemical combinations which form deposits may make the piston difficult to move or may cause jamming.
- Suitability of the instrument for a special application (e.g., trace material analysis) must be checked by the user.
- For additional information, please contact the manufacturer.
- The instrument is NOT autoclavable!

#### Items supplied

- Titrette® bottle-top burette
- 45mm thread
- Performance certificate
- Telescoping filling tube, 170-330mm
- Recirculation tube
- 2 batteries, AAA/UM4/LR03
- 3 PP bottle adapters, 45/33mm, 45/S40mm, and 33mm/STJ29/42
- 2 colored light shield inspection windows
- Operating manual
- One-year warranty



#### Storage conditions

Store the instrument and accessories at dry conditions.  
Storage temperature: -20°C to +50°C (-4°F to 122°F)  
Relative air humidity: 5% to 95%

### Comparison of error limits

|           |                   | Titrette® bottle-top burette |    |         |    | Bottle-top burettes according to DIN EN ISO 8655-3 |     |         |    | Glass burettes Class A according to DIN EN ISO 385 and ASTM E287 |
|-----------|-------------------|------------------------------|----|---------|----|--|-----|---------|----|--|
| Volume mL | Partial volume mL | A* ≤ ± %                     | μL | CV* ≤ % | μL | A* ≤ ± %   | μL  | CV* ≤ % | μL | EL** (DIN EN ISO) Volumetric Tolerance (ASTM) ± μL               |
| 25        | 25                | 0.07                         | 18 | 0.025   | 6  | 0.2  | 50  | 0.1     | 25 | 30   |
|           | 12.5              | 0.14                         | 18 | 0.05    | 6  | 0.4  | 50  | 0.2     | 25 | 30   |
|           | 2.5               | 0.70                         | 18 | 0.25    | 6  | 2  | 50  | 1       | 25 | 30   |
| 50        | 50                | 0.06                         | 30 | 0.02    | 10 | 0.2  | 100 | 0.1     | 50 | 50   |
|           | 25                | 0.12                         | 30 | 0.04    | 10 | 0.4  | 100 | 0.2     | 50 | 50   |
|           | 5                 | 0.60                         | 30 | 0.20    | 10 | 2  | 100 | 1       | 50 | 50   |

\* Error limits related to the nominal capacity (= maximum volume) indicated on the instrument, obtained when instrument and distilled water are equilibrated at ambient temperature (20°C/68°F) and with smooth operation.

\*\* Error limit: EL = A + 2CV

A\*=Accuracy, CV\*=Coefficient of Variation

The maximum resolution of the display:

**25mL instrument:** 0.001mL, above 20mL titration volume 0.01mL.

**50mL instrument:** 0.002mL, above 20mL titration volume 0.01mL.

NOTE: If you need an official certification which confirms the error limits that are much stricter than those of DIN EN ISO 8655-3, we recommend a calibration certificate from an accredited calibration laboratory (e.g., the DKD laboratory at BRAND).

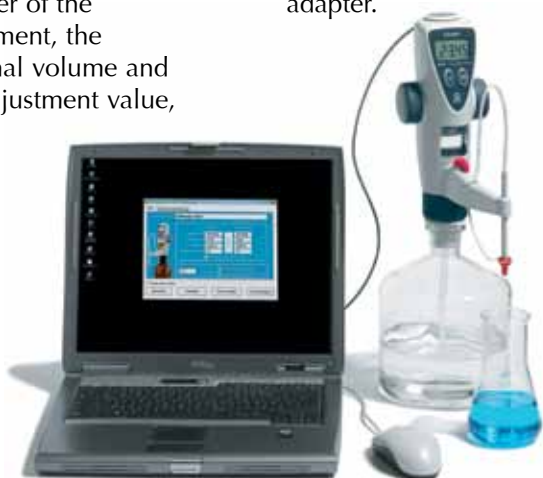


Titrette® bottle-top burette

*PC interface (optional)*

The instrument is available with an optional RS232 communications interface.

- The titration results are automatically transmitted to the PC by double-clicking on the CLEAR key. This eliminates transcription errors while recording primary data, and complies with an important requirement of GLP.
- With each data transfer, the burette sends the titrated volume, the serial number of the instrument, the nominal volume and the adjustment value, as well as the next scheduled calibration date. Thus, all raw data is collected.
- The transmitted data is recognized as keyboard inputs by the PC. This universal input format ensures that the instrument is compatible with all PC applications that accept keyboard inputs.
- To connect the instrument to a USB interface, simply use a standard USB/RS232 adapter.



Instruments with a factory DKD certificate are available. Contact BrandTech Scientific for more information.

**ORDERING INFORMATION**

| Description                         | Cat. No. |
|-------------------------------------|----------|
| <b>Titrette® bottle-top burette</b> |          |
| 25mL (standard)                     | 4761151  |
| 25mL with RS232 interface*          | 4761251  |
| 50mL (standard)                     | 4761161  |
| 50mL with RS232 interface*          | 4761261  |

\* Additionally included: connector cable (Sub-D plug connector, 9-pin), one CD (driver software and open RS232 communication protocol). The CD also includes an example application in XLS-file format, as well as a special operating manual.

*Accessories/Spare Parts*



**Titrating tube**

With screw cap and integrated discharge and recirculation valve. Pack of 1.

Cat. No. 707526



**Dispensing cylinder with valve head**

Pack of 1.

**For 25mL volume**

Cat. No. 707534

**For 50mL volume**

Cat. No. 707536



**Filling valve**

With olive-shaped nozzle and sealing ring for Titrette®. Pack of 1.

Cat. No. 6636



**Inspection window**

1 set colorless and 1 set amber colored (light shield).

Cat. No. 6783



**Piston head**

Pack of 1.

**For 25mL volume**

Cat. No. 707530

**For 50mL volume**

Cat. No. 707532



**Telescoping filling tube**

FEP. Pack of 1.

**170-330mm**

Cat. No. 704204

**250-480mm**

Cat. No. 704205



**Drying Tube**

With sealing-ring (without drying agent). Pack of 1.

Cat. No. 707930