

PORTLAB AutoTrate, Motorised Burette/ Electronic Dispenser

The new Portlab 30ml bottle-top AutoTrate with fast motorised filling and dosing (2ml takes just 3 seconds at maximum speed) is our most advanced bottle-top dispenser. It fits directly to the screw-thread neck of virtually any reagent reservoir, eliminating the problems of filling and priming the unit. There are no reagent lines to flush out and as the compact AutoTrate unit is simple to set up and use, it makes it

- ideal for busier QA/QC and chemistry laboratories.
- Large built-in LCD
- Manual titration, dosing and incremental dosing
- Variable speed control
- Can be used as a pH meter (2 decimal place) with automatic temperature compensation (ATC)
- User-defined methods to include speed, time delay, number of cycles
- AutoTrate head can be rotated through 360° for operator safety and comfort.
- Safety pedestal valve to prevent accidental delivery



In addition to the integral graphical display the AutoTrate features a detachable Dosing Module, with a bi-directional RS232C port that can be connected to a PC or to a specified balance for automatic calibration of the AutoTrate direct from the balance. Supported balances include Ohaus, Mettler-Toledo, Sartorius and Denver; a dedicated cable will be required according to type.

The setup menu allows selection of language (English, French, German and Italian) and setting of date/time, type of balance (for automatic calibration), mode, dosing speed and much more. All wetted parts are made of chemically-inert materials and can be disassembled and sterilised or autoclaved at 121°C.

Autotrate Functions

Manual Titration

Continuous titrant supply (pre-titration and titration speed can be adjusted).
Incremental titrant addition (two incremental volumes and two dwell times can be adjusted between pre-titration and titration stages).

Dispensing mode

Dosing of 2ml at maximum speed takes approximately 3 seconds.

Incremental Dosing

In this mode, dosing speed, number of cycles and the time delay between dosing can be individually adjusted to suit the application.

Methods

AutoTrate comes with 10 predefined methods using factory-set dosing parameters. Up to five methods can be stored for each mode, including user-defined methods, created & stored according to your applications.

Autotrate easily transforms from the manual version to an automatic titration version by a simple replacement of the Dosing Module for a Titration Control Module. This means you can use AutoTrate as a bottle-top doser/dispenser or plug in the accessory Titration Control Module to convert it into the fully functioned autotitrator, AutoTrate Pro.

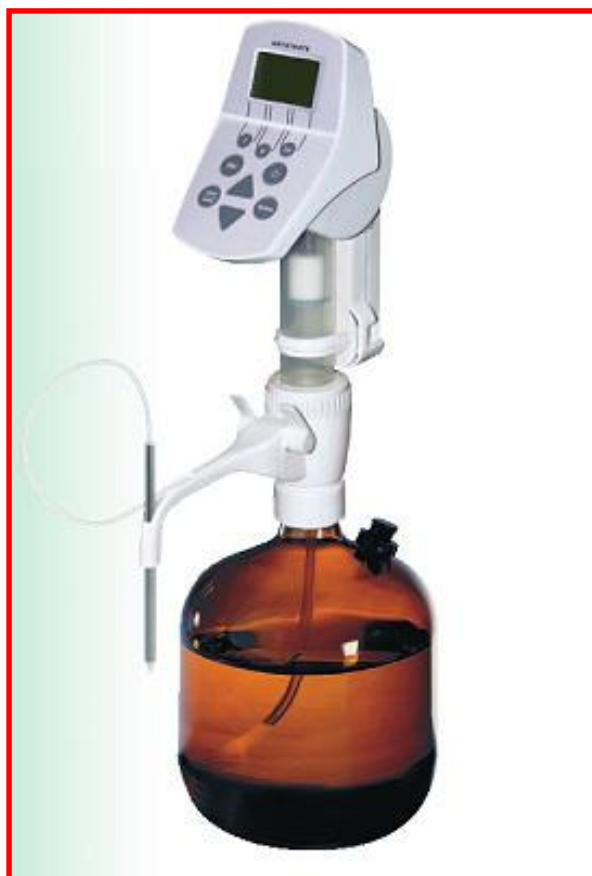
PORTLAB AutoTrate Pro Bottle-Top Autotitrator

AutoTrate Pro features the Dosing Module and a Titration Control Module, along with a dedicated pH probe (with ATC). The AutoTrate Pro is able to perform either end-point or equivalence point (inflection point) titrations with automatic reagent addition.

AutoTrate Pro performs fully automated potentiometric titrations with an increment resolution of $\pm 0.05\text{ml}$ and reproducibility of better than 0.1% CV. The titration curve is displayed on the large LCD post run and the titration information can be downloaded directly to a PC for data logging and postrun reporting.

A sophisticated but cost effective titration system can be put together by combining the AutoTrate Pro with a compact magnetic stirrer and the dedicated electrode holder. pH readings from the electrode (that can be manually or automatically compensated) are used to control the rate of addition of titrant from the autoburette until either a fixed pH end-point is reached (strong acid/strong base) or an equivalence point (weak acid/weak base) is passed. The equivalence point, or iso-electric point, is then accurately back-calculated from the slope of the titration curve. Dynamic reagent addition ensures a smooth final addition to reach the end point as the autoburette slows down. A programmable delay between dosing increments allows solutions of high buffer capacity to return to equilibrium before the next dosing increment is calculated.

With its rapid dosing burette and pH sensor accurate to 0.03pH, the AutoTrate Pro is able to perform this method much quicker and more precisely than traditional gravimetric analysis using manual burettes. The results can be recorded and data logged for later analysis.



Specification

Resolution, ml ± 0.1

Max vol, ml 30

Voltage range, mV ± 2000

pH display resolution 0.01 pH

BNC plug pH electrode compatible

Packing List (what package contains)

Cod. 20001

AutoTrate motorised 0.1-30ml Digital Burette (v1) supplied with AutoTrate main control unit, Dosing Module, AC adaptor, burette unit and threaded bottle adaptors (33, 3 and 45mm)

Cod. 20002

AutoTrate Pro motorised 0.1-30ml Autoburette supplied with (in addition to the AutoTrate) Titration Module and pH electrode for liquids

