Spectralab

World Class Solution to Titration Applications

Agile

Potentiometric Titrator

Specifications

Principle	Volume determination by equivalence point,end point
Control	Advanced ARM-11 based SOC
End Point Detection	Potentiometric / Voltametric
Results Units	Conc. %w/w, %w/v, ppm, g/L, mg/L, TAN /TBN (mg KOH/g). Universal user defined unit
Calculations by	Selected EP, Largest EP, last EP, EP within specified ml / mV window
Report Format	Single report with graph & signature
Report Storage	100 document reports can be stored.
Cut-off criteria	(1) Volume (2) End Point (3) mV/pH
Mode of Titrations	Blank, Normality, Sample
Methods	FED, SVD, ASD
Method Storage	100 user methods can be stored with more than 20 parameters per method.
Stirrer System	High speed vortex stirrer with digital display
Stir time	Selectable for any desired time
Sensors	Electrodes of various types
Calibration	5 point for pH, 5 point for ISE, 2 point for ORP
Burette Resolution	1/20000, of burette volume (or 0.001ml for all burettes)
Filling time	< 20 sec.
mV range	+ 3200.00 mV
Resolution	0.01 mV (0.001 pH)
Statistics	Mean value, SD, RSD & Linearity (online & offline calculation)
Input impedance	$10^{12}\Omega$
Polarizing current	2,5,10 micro amps
Keys & Display	7″TFT
Mouse Connectivity	Optional
Peripheral Interface	USB (3), Rs232, Balance Interface, Parallel Printer, PC connectivity through Ethernet.
Power	230 V AC + 10%, 50 Hz
Environmental	Operation : Indoor, Temperature : ambient to
requirement	450C, Humidity: 5 to 90% non-condensing
Dimension	30 cm x 28cm x 17cm

Standards & Compliances

- **CE Marking**
- **GLP Compliance**
- **Calibration Tracability**
- **CFR Compliance**
- **IEC, ASTM, APHA, Pharmacopeia**
- **Documentation DQ, IQ, OQ & PQ**

Typical Applications

The titrator can be used in many fields for several applications. some of them are mentioned here

Pharmaceuticals And Bio-Chemistry

Enzyme Reactivity, Ketoconazole, Zinc Sulphate Titration

Environment and Water Pollution

P & M Alkalinity, Chloride Content, Ca & Mg Hardness.
COD Titration Alkalinity as CaCO3, Acid and Base capacity of water
Permanganate Index Lime content, Chloride content in Soil

Chemical Industries

Evaluation of Gold Number. Amine value of Silicon oil Sodium Chloride, Soda Lye, Sulphuric Acid Titrations Nitrogen content of Nitro cellulose Cationic surfactant Titrations Soaps and Anionic surfactant in washing powder Soap content in Soap Noodles

Dyes And Paints

Sulphate Analysis, Acidity of Dye

Petrochemical Industries

Total & Free Chlorine in Furnace Oil Saponification value of oil TAN/TBN as per ASTM. Mercaptan Sulfur Bromine Index And Bromine Number Iodine Value Titration Hydroxyl number (HN) as per ASTM E 1899-08 and DIN 53240-2

Food & Beverages

Mono Sodium Glutamate Titrations Vitamin C Titration Salt content in Food and Fortified products Ferric Pyrophosphate Titration Acidity of Jam & Jelly Iodine content in salt.

Dairy Industries

Acidity of Milk, Chakka, Curd, Cheese & Shrikhand Free Fatty Acid

Distilleries

Acidity of Rectified Spirit, Alcohol Purity

Cosmetics

Chloride Content in Shampoo, pH

Iron & Steel Industries

Acidity of sand used in castings
Typical Applications

(Due to continuous R & D, the specification & Dimensions subject to modification.)
(Accessories shown may not be part of standard equipment)

Stat Titration

The pH Stat Titrator is predominantly used in pharmaceutical and food industries, with extended applications in bioreactor systems, beverage/wine processing, and the automotive sector. It facilitates the titration of strong acids or bases to determine concentration. Unlike standard titrations that end upon reaching a predefined endpoint, pH stat titration maintains the pH at a preset level (e.g., pH 7) for a specific time duration. This allows monitoring of the time taken and the reagent consumed while stabilizing the pH, offering valuable insight into reaction kinetics and material behavior.

Pharma Application

Enzyme activity determination is the main application for Pharmaceuticals. Common example is release kinetics of antacid tablets its requires to adjust and maintain a pH to the pH value preset.

The commonly enzymes here is:- • Lipase • Trpsin.

Synthesis laboratories

Normal synthesis laboratories for any other field may encounter different challenges. Here the pH value has to be maintained to some preset condition and also some additional recant dosing may be required in between. This also means that a certain fixed volume of the Titrant has to added over a period of time.

Configuration

Apart from main titrating unit you also will need the following :

- Combination pH Electrode : 1No
- Glass Titration Vessels : 4Nos
- Conical Titration Vessels : 4 nos.
- Titration Vessel Stand : 1 No
- Titration vessel stand for pH stat : 1 No
- Mini Cooling System Model MCS 150 : 1 No
- Interchangeable Burette Assembly : 1 No
- Mains Cord : 1 No
- serial interface cable for pc : 1 No
- Operating Manual : 1 No

Spectralab
everything analytical
ISO 9001 : 2008 CERTIFIED

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