

# GRScientific

## Titra-Max Titration System



### Application:

The Titra-Max titrator is used for the analysis of:

- TAN (total acid number)
- TBN (total base number)
- Mercaptan Sulphur
- Analysis of petroleum products, lubricants and transformer insulating oils.

**The Titra-Max titration system conforms to ASTM D664, D2896, D4739, D3227.**

### Working procedure

- Choose **method of analysis** from menu.
- **Calibrate** the system according to chosen method.
- **Blank determination** for the titration solvent.
- Carry out **Analysis of sample**.
- Obtain **direct readout of sample result**.
- **Post run analysis of data**, result storage and printing.

## Titra-Max Titration System

### Features and Benefits

- User friendly auto titration system.
- User selectable End Point mode.
- Compliant to ASTM methods for TAN/TBN analysis of oil samples.
- Mercaptan sulphur titration method as standard.
- Interchangeable burette assemblies with intelligent volume recognition system.
- Vortex mixing system for vigorous and homogeneous stirring of viscous samples.
- Alphanumeric entry of all method parameters and sample data that ensures GLP compliance.
- Pre-programmed ASTM methods for easy operation.
- Two tier password protection, Administrator and User, for method editing.
- User selectable report formats - Titration analysis reports, method parameters, Data table, Titration curves, etc..
- Full reprocessing and statistical analysis of run data including first and second derivative graphical report.
- Balance interface for weight data transfer.
- Data download to PC.
- Full printout facility for titration report, analysis graph and derivative calculation.



### Keypad

Simple, easy to use keypad with function guide display. Alphanumeric entry of Sample Name, Titrant Name, Identification Number, Date with type of electrode used for authentication, Customer Name and Instrument Serial Number on report printouts for GLP compliance.



### Burette system



Interchangeable burette assembly with intelligent volume recognition system. Simply remove the retaining screw, slide out the burette assembly and replace with different volume or titrant burette. Easy to follow screen prompts.

### Titration vessel

Complete with vortex mixing for vigorous and homogeneous stirring of viscous samples. Chemically inert glass stirrer paddle. The vortex mixer is located next to the electrode so that the whole assembly can be swung away from the titration unit for easy rinsing and cleaning.



### Electrode system

A range of specially manufactured electrodes designed for optimum performance and excellent results.

## Technical Specifications

**Principle:** Volume determination by equivalence point or end point

**Control:** Microcontroller based.

**mV range:** +/- 3200

**Accuracy:** +/- 0.1mV

**Amplifier impedance:** > 10<sup>12</sup> ohms.

**Burette resolution:** 1/5000 for 5ml, 1/10000 for 10ml, 1/5000 for 25ml.

**Filling time:** < 20 seconds

**Keyboard:** Alphanumeric splashproof polyester soft keys.

**Display:** 40 x 2 backlit LCD

**Titration Head:** Manual stand with swivelling arm.

**Stirrer system:** Microcontroller based variable speed, high torque vortex mixer.

**Cut off criteria:** Choice of Volume or End point,

**Applications:** Pre-programmed ASTM methods

**Report format:** Multi choice including method parameters, titration graph and 1<sup>st</sup>/2<sup>nd</sup> derivatives.

**Printer connection:** Parallel port.

**Balance connection:** Serial interface & RS232C

**Power:** 90-264VAC, 47-63Hz.

# GRScientific

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