



MANTECH

OPTIMIZE YOUR RESULTS. PROTECT OUR ENVIRONMENT.



**AUTOMATED MULTI-PARAMETER &
TITRATION ANALYSIS SOLUTIONS**

PC-TITRATE SOFTWARE™

MANTECH's customizable PC-Titrate™ software provides reliable results with automated quality control checks, linear and multi-line calibrations.



FEATURES

1. Autorun buttons for simplified operations
2. Real time titration curve
3. Manage and prioritize samples during analysis
4. Easily reference historical data and transfer results to LIMS

SYSTEM BENEFITS



Automates 26-300 samples in a single batch



Customizable user interface for simplified operation



Non-destructive sample preparation allows for up to 5 parameters on a single sample



Eliminates potential for human error with automated pipetting using MANTECH's TitrasiP™



IntelliRinse™ prevents cross contamination between samples

TITRATION ANALYSIS SYSTEM FEATURES

MODEL	MT-10	MT-30	MT-100
Capacity	26 - 400	28 - 400	30 - 400
DualProbe*	✓	✓	✓
IntelliRinse™	✓ Static and Dip Multiple Stations	✓ Dynamic	✓ Dynamic
SampleProtect™*	✓	✓	✓
Temperature Compensation	Automated with Manual Temperature entry	Automated with Thermistor	Automated with Thermistor
PeCOD® Analyzer Add-on (15min COD and NOM)	✓	✓	✓
BOD 5 Day DUO Add-on	✓	✓	✓
Food Applications, total acidity, sulfite and chloride	✓	✓	✓
2 or more titration methods	✓ In different sample cups	✓ In different sample cups	✓ From a single sample cup
125ml cups	✓	✓	✓
50ml tubes	✓	✓	✓
15ml tubes			✓
IntelliVOL™**	✓	✓	
Automated Pipetting			✓
RapidDuo™ e.g. alkalinity & hardness in 2 different vessels			✓

*Available with AM122, AM197 and AM354 Autosamplers

**Aspiration of sample to a known volume via extraction pump. Accurate sample volume allows for titration directly in 125 mL cup or 50 mL tube.

**SYSTEM PICTURED MEASURES PH,
CONDUCTIVITY, AND ALKALINITY
FROM A SINGLE SAMPLE**



PARAMETER	METHODOLOGY	CONFORMS TO:	RANGE OF MEASUREMENT*	CALCULATED METHOD DETECTION LIMIT (MDL)**	RSD SPECIFICATIONS***
Acidity	Potentiometric Titration	EPA 305.1, 305.2; SM 2310 B; ASTM D 1067	1 - 2500ppm	0.42	0.97% @ 100ppm
Alkalinity (P&M, bicarbonate, carbonate, hydroxide)	Potentiometric Titration	EPA 310.1; SM 2320 B; ASTM D 1067; ISO 9963-2	0.3 - 2500ppm	0.18	0.48% @ 200ppm
Ammonia	Ion Selective Electrode	EPA 350.3; SM 4500-NH3 D; ASTM D 1426 (B)	0.1 - 17,000ppm	0.05	2.41% @ 1ppm
	Ion Selective Electrode (Standard Addition)	SM 4500-NH3 E	0.5 - 200ppm	0.1	4.24% @ 2ppm
Chloride	Potentiometric Titration	SM 5400-Cl- D; Variation of ASTM D 512 (B); ISO 9297	1 - 1000ppm	0.28	0.24% @ 100ppm
	Ion Selective Electrode	Variation of ASTM D 512 (C)	0.05 - 35,500ppm	0.01	1.55% @ 100ppm
Color	Colorimetric	EPA 110.2; SM 2120 B	2 - 500CU	0.19	1.7% @ 5CU
Conductivity	Conductivity cell	EPA 120.1; SM 2510 B; ASTM D1125; ISO 7888	<1 - 199,999uS	0.65	0.18% @ 1413uS
Fluoride	Ion Selective Electrode	EPA 340.2; SM 4500-F- C; ASTM D 1179 (B); ISO 10359-1	0.02 - Saturated	0.005	1.57% @ 1ppm
Nitrate	Ion Selective Electrode	SM 4500-NO3- D	0.14 - 62,000ppm	0.05	0.87% @ 100ppm
Oxidation-Reduction Potential (ORP)	Redox Electrode Measurement	SM 2580; ASTM D 1498	-2000 - 2000mV	N/A	0.10% @ 220mV
Oxygen	Dissolved Oxygen Probe Measurement	EPA 360.1; SM 4500-O G; ASTM D 888 (B); ISO 5814	0 - 19.99ppm	N/A	N/A
pH	pH Electrode Measurement	EPA 150.1, 150.2; SM 4500-H+ B; ASTM D 1293; ISO 10523	1 - 14	N/A	+/- 0.05
Salinity	By Calculation	SM 2520 B	0.1 - 42	0.002	0.15% @ 10
Temperature	Thermometric	EPA 170.1; SM 2550 B	N/A	N/A	N/A
Total Hardness	Potentiometric EDTA Titration	Adapted from EPA 130.2, SM 2340 C, ASTM D 1126	1.09 - 1500ppm	0.43	1.63% @ 94ppm
Turbidity	Nephelometric	EPA 180.1; SM 2130 B; ASTM D 1889; ISO 7027	0.1 - 2000NTU	0.05	2.95% @ 1NTU

Please note that in order to obtain the above MDLs, proper analytical techniques and MANTECH recommended procedures including sample volume and reagent concentrations are to be used. Varying sample matrices may generate different results.

*Data for these measuring ranges were obtained using laboratory prepared standards. Some measuring ranges may be increased by using larger capacity analysis vessels, auto-dilution and/or sample spikes. The Reporting Limits (RL) were determined based on data obtaining a coefficient of variance better than 30%. Results may differ depending on laboratory practices and sample matrices

**MDLs differ from RLs in that they refer to the minimum concentration of a substance that can be measured with 99% confidence that the analyte concentration is greater than zero. The MDL calculation procedure was obtained from US EPA 40 CFR Appendix B to part 136 - Definition and Procedure for the Determination of the Method Detection Limit. MDL = Standard Deviation x T-Value. T-values obtained from reference tables, 99% confidence, n-1 degrees of freedom.

***The RSDs listed are stated for a particular measurement range. As the MDL is approached, the value will increase as described above.



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