

# TITRALAB AT1000 SERIES AUTOMATIC TITRATORS

**LENNTECH**  
WATER TREATMENT SOLUTIONS



## Applications

- Drinking water
- Wastewater
- Food and beverage
- Petrochemical industry

## Automatic titration without all the complications

Titration can be easy. The TITRALAB AT1000 from HACH LANGE uses pre-set functions that eliminate complex programming and provide accurate results.

The Karl Fischer version TITRALAB KF1000 requires only small sample quantities to deliver accurate and precise results for water content applications.

### Reliable titration results

Eliminates operator interpretation and manual processes with automatic titration to quickly deliver accurate and repeatable results.

Pre-programmed titration methods detect end points and eliminate manual calculations to make results easier to achieve without advanced programming.

### Simple setup and titration

Application-specific functions to eliminate complex titration setup and analysis.

HACH LANGE's unique application kits make it quick for anyone to set up and operate a test.

## Technical Data\*

<b>Titration types</b>	Potentiometric (zero & imposed current), amperometric, colorimetric
<b>Titration modes</b>	Sample, blank, sample with blank, QC sample, QC sample with blank
<b>Parameter</b>	mV/pH, Conductivity, Temperature
<b>Resolution</b>	mV/pH: $\pm 0.1$ mV / $\pm 0.001$ pH Conductivity: $\pm 0.5\%$ of reading Temperature: $\pm 0.3$ °C
<b>Sample stand</b>	Integrated, magnetic stirring, beakers up to 250 mL
<b>Electrode</b>	INTELLICAL ("Plug & Play" digital), analogue, photolorimetric; 2 inputs available
<b>Burette volumes available</b>	2.5/5/10/25 mL, ISO8655-3
<b>Burette motor resolution</b>	20,000 steps with electronic $\mu$ stepping technology (128 $\mu$ steps/step)
<b>Calibration</b>	Electrode & titrant (up to 5 buffers in Auto Mode, fixed & user defined)
<b>Calibration intervals/alerts/reminder</b>	Yes, user defined period
<b>Data storage</b>	Last 100 samples, QC & blank analyses, last 10 calibrations
<b>Data logger</b>	On USB flash drive, CSV format, Excel compatible
<b>Operating Interface</b>	Soft keypad (silicone)
<b>Display type</b>	5,7"; Graphic colour; VGA
<b>Calibration curves display</b>	Direct & derivative titration curves, electrode calibration curve

<b>Accessories</b>	Supported peripherals: printer, PC software, balance, sample changer, keyboard, mouse, barcode reader, sampling pump, propeller stirrer
<b>Data Storage</b>	Date, Time, Operator IDs, Sample IDs
<b>Maintenance scheduler</b>	Yes, user defined
<b>Embedded procedures</b>	Tubing bubble purging, reagent priming, burette and pump replacement
<b>Password Protection</b>	Yes, user defined protected elements
<b>Languages user interface</b>	English, German, French, Italian, Spanish
<b>Output</b>	Electrode ports (x2), USB (x2), serial (x1), Ethernet (x1)
<b>Dimensions Metric (H x W X D)</b>	220 mm x 400 mm x 360 mm
<b>Weight</b>	4 kg
<b>Material</b>	Latene (PP), silicone, hardened glass, POM, stainless steel
<b>Power requirements (Voltage)</b>	100/240 V AC
<b>Power requirements (Hz)</b>	50/60 Hz
<b>Operating conditions</b>	15 - 35 °C , 20 - 80% RH, non-condensing
<b>Storage conditions</b>	-5 - 40 °C
<b>Certifications</b>	Safety IEC/EN 61010-1; EMC IEC/EN 61326-1
<b>Warranty</b>	2 years

\*Subject to change without notice.



Robust and intuitive user interface



Application software delivered on USB key

**AT1000 / KF1000 Series Titrator Models**

Titrator Models		AT1102	AT1112	AT1122	AT1222	KF1121
Burette for Titrant		1	1	1	2	1
Integrated Peristaltic Pump		0	1	2	2	2
Maximum Number of Applications		5	5	5	10	5
<b>Water Applications</b>						
AP0001.AT1102	pH/Alkalinity in Water	■	■	■	■	-
AP0002.AT1102	pH/Alkalinity & Conductivity in Water	■	■	■	■	-
AP0003.AT1112	Ca & Mg Hardness (ISE) in Water	-	■	■	■	-
AP0004.AT1112	Total Hardness (Colour) in Water	-	■	■	■	-
AP0005.AT1222	pH/Alkalinity & Hardness (ISE) in Water	-	-	-	■	-
AP0009.AT1112	Chlorides in Water	-	■	■	■	-
<b>Food and Beverage Applications</b>						
AP0008.AT1102	pH, Total Acidity in Food & Beverage	■	■	■	■	-
AP0010.AT1112	Salt in Food Products	-	■	■	■	-
AP0011.AT1222	pH, Total Acidity & Chlorides in Food & Beverage	-	-	-	■	-
AP0012.AT1122	Free & Total SO <sub>2</sub> in Wine	-	-	■	■	-
AP0013.AT1222	pH, Total Acidity, Free & Total SO <sub>2</sub> in Wine	-	-	-	■	-
<b>Petrochemical Applications</b>						
AP0015.AT1102	TAN (Total Acid Number) in Petrochem	■	■	■	■	-
AP0016.AT1102	TBN (Total Base Number) in Petrochem	■	■	■	■	-
AP0017.AT1112	R-SH (Thiol) in Petrochem	-	■	■	■	-
AP0018.AT1102	Br <sub>2</sub> /I <sub>2</sub> index in Petrochem	■	■	■	■	-
<b>Environmental Applications</b>						
AP0006.AT1102	FOS/TAK (Biogas)	■	■	■	■	-
AP0007.AT1122	Free & Total Chlorine, Chlorine Dioxide, Sulphite (AUTOCAT)	-	-	■	■	-
<b>Moisture Content Application (Karl Fischer)</b>						
AP0014.KF1121	Moisture Content (Karl Fischer)	-	-	-	-	■

## Order Information

### Instruments

<b>AT1102.98</b>	TITRALAB AT1000 Series Potentiometric Titrator, 1 Burette
<b>AT1112.98</b>	TITRALAB AT1000 Series Potentiometric Titrator, 1 Burette, 1 Pump
<b>AT1122.98</b>	TITRALAB AT1000 Series Potentiometric Titrator, 1 Burette, 2 Pumps
<b>AT1222.98</b>	TITRALAB AT1000 Series Potentiometric Titrator, 2 Burettes, 2 Pumps
<b>KF1121.98</b>	TITRALAB KF1000 Series Volumetric Karl Fischer Titrator, 1 Burette, 2 Pumps



### Optional Accessories

<b>LQV161.99.10000</b>	DPU-S445 USB Thermal printer kit
<b>LZE127</b>	TITRAMASTER 1000 Series, PC software with Ethernet cable
<b>LZE142</b>	External pump (sample leveling), for AT Titrator
<b>LZE143</b>	Propeller stirrer, 70 mm shaft, for AT Titrator

### Service Packages

<b>TSE-CC-AT1000</b>	Comfort maintenance contract for Automatic Titrator TITRALAB AT1000/KF1000 Series. Includes one onsite visit and final reporting. Extended warranty up to 5 years.
<b>TSE-CAL-AT1000</b>	In-house verification of burette, TITRALAB AT1000/KF1000 Series
<b>TSE-COM-AT1000</b>	Commissioning for Automatic Titrator TITRALAB AT1000/KF1000. Includes first level training.

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