



Applications
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Hach® Digital Titrator



Accurate, convenient titrations without the bulk, fragility, or waste of a conventional buret.

The Digital Titrator is a unique device that, despite its name, relies on mechanical components and human operation, eliminating the need for an external power source. This innovative tool is designed to accommodate interchangeable titrant cartridges, allowing for multiple titrations by simply changing the cartridge and delivery tube. This feature significantly reduces the time spent on cleaning and assembling cumbersome, fragile glass burets, and virtually eliminates the risk of cross-contamination and over-titration.

The Digital Titrator offers high precision and accuracy comparable to traditional buret titrations, but with reduced sensitivity to technique. Its design ensures it is both portable and durable, making it suitable for both laboratory and field use. This precision dispensing device performs titrations quickly and economically. Designed and built for durability, the Digital Titrator comes with a lifetime warranty: Hach Company will repair or replace it free of charge, provided it has not been abused. Whether you carry it to sample sites within the water or wastewater plant or take it to the field for ecology or water quality studies, the Digital Titrator is built to withstand heavy use.

Weighing just 132 grams (less than 4 oz.), and with a variety of titrant cartridges available, the Digital Titrator is a versatile and valuable addition to any lab.

Accurate results - when and where you need them

Digital Titrator methods use a high-precision dispensation device and cartridges of concentrated titrant to allow analyses in the lab, the plant or the field.

Fast and Flexible

Interchangeable cartridges allow you to change titrants in seconds. No cleaning or rinsing burets.

Versatile

More than 50 parameter/range combinations are available

Economical

Concentrated titrants allow 40-100 typical titrations per cartridge.

End-Point easier to determine

The number used for calculation of sample concentration is recorded directly from the Digital Titrator's digital counter. For many methods, the displayed value is the concentration.

Technical Data*

Digital Titrator

| | |
|-----------------|---|
| Delivery | 800 digits/mL |
| Accuracy | ± 1 % (Uncertainty of readings is 1 digit. Most samples require more than 100 digits) |
| Weight | 132 gr (4 oz.) |

Cartridges

| | |
|------------------------|---|
| Volume | 13 mL |
| Number of tests | 50 - 100. Most reagents are formulated to provide 100 typical titrations. Number of tests may vary depending on sample strength. |
| Weight | 56.75 grams (2 oz.) |

*Subject to change without notice.

Titration Cartridges Available*

| Parameter | Part-Number | Application† | Description | Ranges (vary with sample volume) |
|-----------------------------|-------------|--------------|--|--|
| Acid-Base | 1439001 | 4 | 8.00 N HCl | 10 - 4000 meq/L Base |
| | 1439101 | | 8.00 N H ₂ SO ₄ | 10 - 4000 meq/L Base |
| | 1438101 | | 8 N NaOH | 10 - 4000 meq/L Acid |
| Acidity | 1437701 | 1, 2, 3 | 0.1600 NaOH | 10 - 160 mg/L CaCO ₃ |
| | 1437901 | | 1.600 N NaOH | 1 - 4000 mg/L CaCO ₃ |
| Alkalinity | 1438801 | 1, 2, 3 | 0.1600 N H ₂ SO ₄ | 10 - 160 mg/L CaCO ₃ |
| | 1438901 | | 1.600 N H ₂ SO ₄ | 100 - 4000 mg/L CaCO ₃ |
| Hardness, Calcium and Total | 1436401 | 1, 2, 3 | 0.0800 M EDTA | 10 - 160 mg/L CaCO ₃ |
| | 1439901 | | 0.800 M EDTA | 100 - 4000 mg/L CaCO ₃ |
| | 1440201 | | CDTA‡, 0.0800 M | 10 - 160 mg/L CaCO ₃ |
| | 1440301 | | CDTA‡, 0.800 M | 100 - 4000 mg/L CaCO ₃ |
| | 1496001 | | 0.1428 M EDTA | 1 - 16 G.d.h. |
| | 1495901 | | 0.714 M EDTA | 10 - 200 G.d.h. |
| Carbon Dioxide | 1437801 | 1, 2 | 0.3636 N NaOH | 10 - 100 mg/L CO ₂ |
| | 1438001 | | 3.636 N NaOH | 100 - 1000 mg/L CO ₂ |
| Chloride | 1439601 | 1, 2, 3 | 0.2256 N AgNO ₃ | 10 - 100 mg/L Cl ⁻ |
| | 1439701 | | 1.128 N AgNO ₃ | 100 - 10000 mg/L Cl ⁻ |
| | 1439301 | | 0.2256 N Hg(NO ₃) ₂ | 10 - 160 mg/L Cl ⁻ |
| | 92101 | | 2.256 N Hg(NO ₃) ₂ | 100 - 8000 mg/L Cl ⁻ |
| Chlorine | 2259901 | 1, 2, 3 | PAO**, 0.00451 N | 0.001 - 1 mg/L as Cl ₂ |
| | 2142001 | | PAO**, 0.00451 N | 0.01 - 10 mg/L as Cl ₂ |
| | 199901 | 1, 2 | 0.00564 N PAO | 0 - 1000 µg/L Cl ₂ |
| | 2292301 | | 0.00564 N FEAS | 0 - 3.00 mg/L Cl ₂ |
| | 2267301 | 4 | 0.113 N Na ₂ S ₂ O ₃ | 20 - 2000 mg/L Cl ₂ |
| | 1440101 | | 2.00 N Na ₂ S ₂ O ₃ | 2000 - 70000 mg/L Cl ₂ |
| Chromate | 2267601 | 4 | 0.2068 N Na ₂ S ₂ O ₃ | 20 - 400 mg/L CrO ₄ |
| Chelant, Free | 2062501 | 4 | 0.0800 M MgCl ₂ | 0 - 20.0 mg/L CaCO ₃ |
| EDTA | 2081701 | 1, 4 | 0.0716 M EDTA | 10 - 100 mg/L Fe |
| | 2081801 | | 0.716 M EDTA | 100 - 1000 mg/L Fe |
| Oxygen, Dissolved | 2267501 | 1, 2, 3 | 0.200 N Na ₂ S ₂ O ₃ | 1 - 10 mg/L DO |
| Sulfite | 2393701 | 3 | 2.570 N Hg(NO ₃) ₂ | 0 - 100 ppt Salinity |
| Sulfite | 1496101 | 1, 2, 3 | 0.3998 N KIO ₃ -KI | 0 - 800 mg/L SO ₃ ²⁻ |
| Volatile Acids | 1484201 | 4 | 0.9274 N NaOH | 100 - 2400 mg/L CH ₃ COOH |

*Other cartridges are available. Note that other reagents are required in addition to these titration cartridges to complete a test procedure.

† Suitable for but not limited to analysis in the following application: 1 = water; 2 = wastewater; 3 = seawater; 4 = other.

‡ CDTA is substituted for EDTA when samples contain iron.

Order Information

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|----------------|--|
| 1690001 | Digital Titrator with plastic case, manual and 5 straight delivery tubes |
| 1720500 | Delivery Tubes, straight with J-hook, 5/pk |
| 4157800 | Delivery tubes for digital titrator, 90° bend |
| 1449501 | Empty Titration Cartridge with blank label |
| 1940100 | Electrode and Digital Titrator Holder |
| 2270900 | Digital Titrator kit |

Digital Titrator Kits and Reagent Sets

Many single- and multiple-parameter test kits are available with the Digital Titrator for rapid, convenient on-site titrimetric testing. Test kits contain the Digital Titrator, appropriate titration cartridge(s), buffers and/or indicators and necessary beakers, flasks or other labware.

The Universal Digital Titrator Kit can be customized to fit your analysis needs by adding the reagent sets of your choice. Order Catalog Number 2270900.

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|----------------|--------------------------------------|
| 2064000 | Acidity Test Kit, Model AC-DT |
| 2063700 | Alkalinity Test Kit, Model AL-DT |
| 2064100 | Carbon Dioxide Test Kit, Model CA-DT |
| 2063500 | Chloride Test Kit, Model CD-DT |
| 2580600 | Chloride Test Kit, Model CDS-DT |
| 2063600 | Hardness Test Kit, Model HA-DT |
| 2063900 | Hardness Test Kit, Model HAC-DT |
| 2063300 | Sulfite Test Kit, Model SU-DT |

Multiple-Parameter Kits

Kits are equipped with reagents for tests listed. Order replacement reagents as identified in each kit.

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|----------------|--|
| 2350700 | Professional Boiler and Cooling Water Test Kit, Model PBC-DT |
| 243001 | Ten-Parameter Aquaculture Test Kit, Model FF-2 |
| 243003 | Saltwater Aquaculture Test Kit, Model FF-3 |



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