HI902C

Automatic Titration System

Features

Four working modes; potentiometric titrator, pH meter, mV meter, and ISE meter:

- Potentiometric titrator
  - Linked titration methods allow two methods to run in sequence
  - Supports up to 100 titration methods (standard and user defined)
  - Acid/base, non-aqueous, ORP, complexation, back, precipitation titrations and titre determination can be performed
  - Pre-programmed methods or create your own
  - Titration graph can be displayed on-screen and saved as a bitmap
  - Choice of endpoint detection: equivalence point (1st or 2nd derivative) or fixed pH/mV value
  - Reminders for titrant age and standardization expiration
  - Multiple end-point titrations with multiple molecular weights and reaction ratios
  - Two sensor inputs with the addition of a second analog board
  - Supports two burette dosing pumps with the ability to perform back titrations
  - Clip-Lock exchangeable burette system enables users to exchange burettes in a matter of seconds
  - 25 mL precision ground glass syringe with PTFE plunger
  - 40,000 step screw drive, piston dosing pump that can deliver as little as 0.125 µL a dose
  - 3-way motor driven valve
  - PTFE burette tubing with polyurethane tube jacketing
- Full featured research grade pH meter
  - Automatic Temperature Compensation
  - Up to five calibration points with auto recognition of standard buffers
  - Up to five custom buffers can be used for calibration
- mV (ORP) meter
  - Relative mV calibration
- ISE meter
  - Numerous concentration unitsincluding: mol/L, mmol/L, mg/L, mg/mL, ug/L, %, ppt, ppm, g/L, and user defined
  - Up to five calibration points with five custom standards
- Intuitive user interface
- USB port allows for the transfer of methods and reports to a PC or another titrator via USB flash drive
- User upgradable software
- Available with 1 or 2 probe inputs
- RS232 port allows direct connection to an analytical laboratory balance
- Multi language support

HI 902C

The HI 902C is an automatic titrator that complements our wide range of products dedicated to quick and accurate laboratory analysis.

The HI 902C can perform acid/base, potentiometric, ORP, complexometric, precipitation, back titrations and titre determinations.

It dispenses titrant, detects the endpoint and performs all necessary calculations automatically.

This versatile titrator supports up to 100 methods, standard or user defined. When powered on, the instrument initiates an internal diagnostics check and then readies itself for the first titration of the day. A large color LCD screen clearly shows the chosen method and related information. A real-time titration curve can be shown on the display; this feature is useful when new methods are tested or when a procedure needs to be optimized. At the end of the titration, all data, including the graph, are automatically stored in memory and can be copied via the built-in USB drive or through direct connection with a PC.

This titrator is supplied with pre-programmed methods or you can create your own. Methods (standard and user) can be upgraded, stored or deleted by connecting the titrator to a PC with Hanna software or a USB flash drive. Software updates can also be performed using a USB flash drive.

Users can connect pH, ORP or ISE electrodes to the HI 902C, as well as create a complete workstation with a PC, monitor, keyboard and printer.

The HI 902C complies with GLP specifications. All GLP information from each sample can be stored, including ID number, date and time of analysis, electrode ID code, and last calibration date.

The HI 902C also features Hann's exclusive Clip-Lock™ burette system. With Clip-Lock™, reagents burettes can be exchanged quickly and easily to perform different titrations. The Clip-Lock™ exchangeable burette system prevents cross contamination while reducing loss of time and reagents. Burettes simply slide out for quick exchange of titrant and burette for a separate titration method. No need to purge and then rinse with a new titrant.
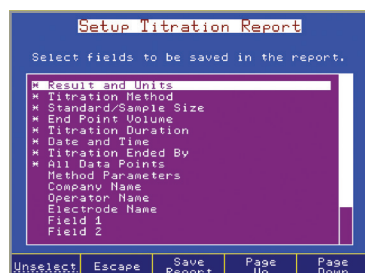
Interrupting an important cycle of analysis due to a malfunctioning burette is a thing of the past. With the Hanna Clip-Lock™ system you can simply substitute the burette and complete all your tests with the same titrant!

Having several prepared burettes on hand will make the Hanna HI 902C one of the fastest and most versatile titration systems on the market.
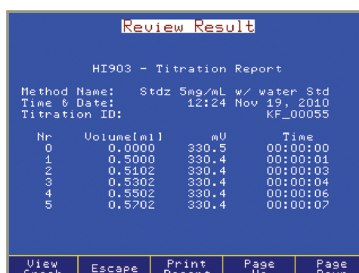
Versatile Data Management

- HI 902C Series titration systems can be easily incorporated into any existing GLP data management program

- Easily record all necessary GLP information with every sample such as sample identification, company and operator name, date, time, electrode ID codes and calibration information

- Data can be transferred to a PC using the Hanna HI 900PC application

- The USB port allows for the easy transfer of methods, reports and software upgrades via USB flash drive

- Users can print reports of analyses directly from the titrator using a standard parallel printer

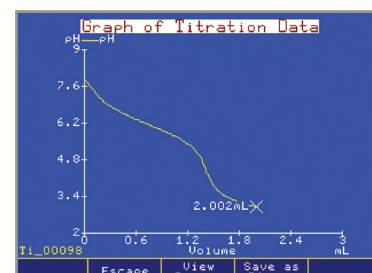- An external monitor and keyboard can be attached for added versatility

Customizable reports
Titration reports are fully customizable

Versatile results
Titration or pH/mV/ISE reports can be viewed on-screen or transferred to a USB storage device

Titration graphs
Titration graphs can be viewed on screen or saved as bitmaps and transferred to a PC via USB

HI 902C Specifications

pH

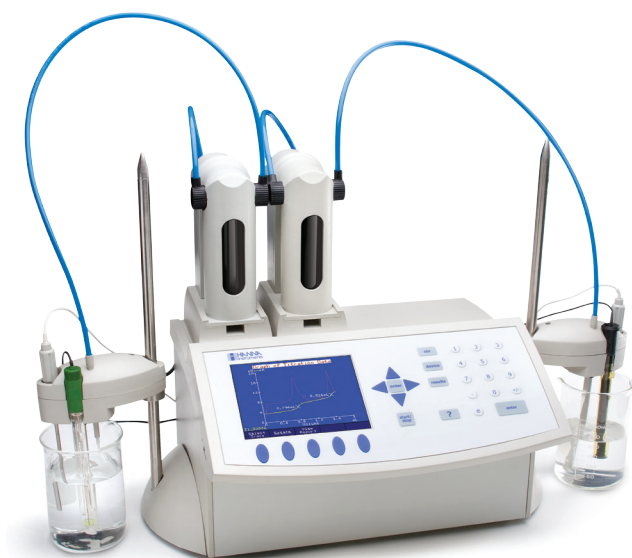|	
Range	-2.000 to 20.000 pH
Resolution	0.1 / 0.01 / 0.001 pH
Accuracy (@ 25°C)	±0.001 pH
Calibration	up to five point calibration, seven user standard solutions and five user defined standards

ORP

Range	-2000.0 to 2000.0 mV
Resolution	0.1 mV
Accuracy (@ 25°C)	±0.1 mV
Calibration	single point offset

ISE

Range	1×10^{-6} to 9.99×10^{10}
Resolution	1, 0.1, 0.01
Accuracy (@ 25°C)	±0.5% monovalent; ±1% divalent
Calibration	up to five point calibration, seven standard solutions and five user defined standards
Calibration Units	ppm or M standards

Temperature

Range	-5.0 to 105.0°C / 23 to 221 °F / 268.2 to 378.2 K
Resolution	0.1 °C / 0.1 °F / 0.1 K
Accuracy (@ 25°C)	±0.1 °C / ±0.2 °F / ±0.1 K (excluding probe error)

Additional Specifications

Burette Sizes	5, 10 and 25 mL
Burette Resolution	1/40000
Display Resolution	0.001 mL
Dosing Accuracy	±0.1% of full burette volume
Dosing Range	0.010 mL to 0.500 mL
Display	5.7" (320 x 240 pixel) backlit color LCD
Languages	English, Portuguese, Spanish
Methods	load up to 100 methods (standard and user-defined)
Burette Auto-Detection	burette size is automatically recognized when inserted into the unit
Programmable Stirrer	propeller type, 100-2500 rpm, automatically held within 10% of the set value, resolution 100 rpm
Flow Rate	user-selectable from 0.1 mL/min to 2x burette volumes/min
Temp. Compensation	manual or automatic (ATC)
End-point Determination	equivalence point (1st or 2nd derivative) or fixed pH/mV value
Potentiometric Titrations	acid-base (pH or mV-mode), redox, precipitation, complexometric, non-aqueous, ion-selective, argentometric, back titrations and titre determination
Measurement Units	user specified expression of concentration units to suit specific calculation requirements
Real Time & Stored Graphs	mV-volume or pH-volume titration curve, 1st derivative curve or 2nd derivative curve, in pH-mode, mV mode or ISE mode; pH/mV/concentration values versus time-datalogging results
Data Storage	up to 100 titration and pH/mV/ISE reports
USB Host (Side)	flash drive compatibility for transfers of methods and reports
Peripherals (Rear)	connections for VGA display, PC keyboard, parallel printer, USB device input, RS232, interface for future expansion
GLP Conformity	instrumentation data storage and printing capabilities
Operating Environment	10 to 40 °C (50 to 104 °F), up to 95% RH
Storage Environment	-20 to 70 °C (-4 to 158 °F), up to 95% RH
Power	"-01" models: 115 VAC; "-02" models: 230 VAC; 50/60 Hz
Dimensions	390 x 350 x 380 mm (15.3 x 13.8 x 14.9 in)
Weight	approximately 10 kg (22 lbs.) with one pump and stirrer assembly

Ordering Information

HI 902C1-01 (115V) titrator with one analog board; HI 902C1-02 (230V) titrator with one analog board; HI 902C2-01 (115V) titrator with two analog boards; HI 902C2-02 (230V) titrator with two analog boards. All models include stirrer with stand, 25 mL glass burette, dosing pump drive, temperature sensor, USB cable, 256 Mb USB flash drive and PC software.

We Design, Manufacture, Supply and Support All of Our Products.

When you buy a Hanna product, you're not only buying the best value for your money, but you're also receiving the benefit of Hanna's unsurpassed customer service and post-sale technical support.

With 60 offices in over 40 countries, Hanna dedicates itself to be a worldwide leader in service and selection.

Offering research grade quality at competitive prices, every Hanna office strives to work with each customer to develop a solution tailored to their needs, on their budget.

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