

# ADVIA 1800 Chemistry System

## Technical Specifications

### Overview

Type of System	Random, continuous access, batch, discrete processing
Throughput Rate	1800 tests/hour: 1200 tests/hour colorimetric, 600 tests/hour ISE
Methods Capacity Onboard	55 including 3 ISE

### Sample Handling

Sample Tubes	5 mL, 7 mL, 10 mL tubes, 2 mL sample cups, microcontainer tubes
Sample Tray	84 samples, positive sample identification
Sample Rack Handler (optional)	Universal 5-position rack, 425 total onboard capacity, continuous feed capability
Sample Integrity Check	Qualitative check for hemolysis, lipemia, and icterus
STAT Sample Loading	84, not dedicated
Bar Codes	2 of 5, Code 39, Code 128, Codabar (NW7)
Auto-repeat	Automatic repeat testing from the retained prediluted sample or original sample
Auto-dilution	Automatic dilution from retained prediluted sample
Auto-reflex Testing	Automatic ability to perform 3 additional tests based on results of first test
Primary Sample Probe	Liquid Level Sensing, Crash Protection, Clot/Clog Detection, Liquid Surface Verification

### Microvolume Technology

Automatic Sample Predilution	Samples diluted 1:5 (30 $\mu$ L sample + 120 $\mu$ L saline generates up to 15 tests), retained for auto-repeat until results are available
Predilution Tray	120 dilution cuvettes
Original Sample Volume	2 to 30 $\mu$ L; average of 2-3 $\mu$ L per test
Average Reagent Volume	80-120 $\mu$ L per test
Storage Capacity Onboard	25,200 tests average; 33,300 tests maximum Usage of concentrated reagents increases maximum capacity

### Reaction Area

Reaction Tray	221 reusable plastic cuvettes
Cuvette Optical Path Length	10 mm
Reaction Bath	Inert fluorocarbon oil circulation system, 37°C
Photometer	14 fixed wavelengths (340, 410, 451, 478, 505, 545, 571, 596, 658, 694, 751, 805, 845, and 884)
Light Source	12 V, 50 W halogen lamp, cooled by forced water circulation
Assay Methods	Endpoint, rate reaction, 2-point rate, multipoint homogeneous immunoassay
Reaction Times	3, 4, 5, 10, 15, and 21 minutes
Automatic Correction	Serum blank, cell blank, measurement point change, sample volume change in reassay
Point Forwarding	Automatically extends linearity over assay range samples

### Reagent Handling

Reagent Tray	2 trays, 56 positions each, refrigerated
Reagent Capacity Onboard	52 colorimetric methods
Dispensing System	2 probes with Liquid Level Sensing and Liquid Surface Verification
Reagent Wedges	20, 40, 70 mL bar-code-labeled wedges
Reagent Inventory Management	Tracks tests remaining, lot number, onboard stability, and expiration date
Reagent Dilutions	Capability to dilute concentrated reagents onboard
Onboard Stability	Up to 60 days

### Open System Capability

Channels	200 channels, includes user-defined applications
Siemens Healthcare Diagnostics 3rd Party Applications	Varies by country, can be configured on system

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<b>ISE</b>	Indirect simultaneous measurement of Na <sup>+</sup> , K <sup>+</sup> , Cl <sup>-</sup>
<b>Sample Volume</b>	22 µL for all three tests
<b>Priming</b>	Automatic priming cycle
<b>Electrode Expected Use Life</b>	30,000 samples, 3 months, or whichever occurs first
<b>Throughput Rate</b>	600 tests/hour; 200 tubes/hour

## Calibration/QC

<b>Calibration Interval</b>	Up to 60 days, tracked by software
<b>Auto-calibration/Auto-QC</b>	User-defined time interval or with new reagent container
<b>View Calibration</b>	Graphical display of calibration curves from up to 2 different reagent lots
<b>QC Data</b>	Graphical display of QC, RealTime/QC monitoring
<b>Calibration/Control Tray</b>	61 refrigerated positions for calibrators, controls, and diluents

## Data Management

<b>Operating Computer</b>	Windows XP®, 1 GB RAM, touch screen monitor 19"
<b>System Documentation</b>	Operator manual and method sheets online
<b>Host Interface</b>	RS 232C bidirectional
<b>Data Storage</b>	70,000 patient tests
<b>Onboard Maintenance Logs</b>	Schedule and monitor routine maintenance activities via software
<b>Host Query</b>	ASCII; system requests work order or batch of work orders from host

## General Specifications

<b>Power Requirements</b>	200/220/230/240 V +/- 10%, 20 A, 50/60 Hz, 3 KVA
<b>Water Requirements</b>	Deionized water from pressurized water (10-30 psi/169-207 KPa) Average Consumption: 30 liters per hour
<b>Drain Requirements</b>	Minimum of 10.6 gallons (40 liters) per hour
<b>Dimensions</b>	ADVIA 1800 System (h x w x d): 44.6 x 58.3 x 34.5 in (113.3 x 148.0 x 87.6 cm) Universal Rack Handler (h x w x d): 37 x 29 x 41 in (86.4 x 73.7 x 104.1 cm)
<b>Weight</b>	ADVIA 1800 System: 1,323 lbs (600 kg) Universal Rack Handler: 178 lbs (81 kg)
<b>Compliance</b>	UL, cUL, CE
<b>Noise Specifications</b>	Open cover less than 70 db
<b>Average Heat Output</b>	4,299 BTU/hour @ 50 Hz, 3,023 BTU/hour @ 60 Hz
<b>Operating Temperature Range</b>	18°-30°C/64°-86°F
<b>Ambient Humidity</b>	40%-70%

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