

respons[®]940

A New Member of the respons[®] System Family



**Designed for Modern Clinical Laboratories.
Real Throughput of up to 640 Tests/h Including ISE**

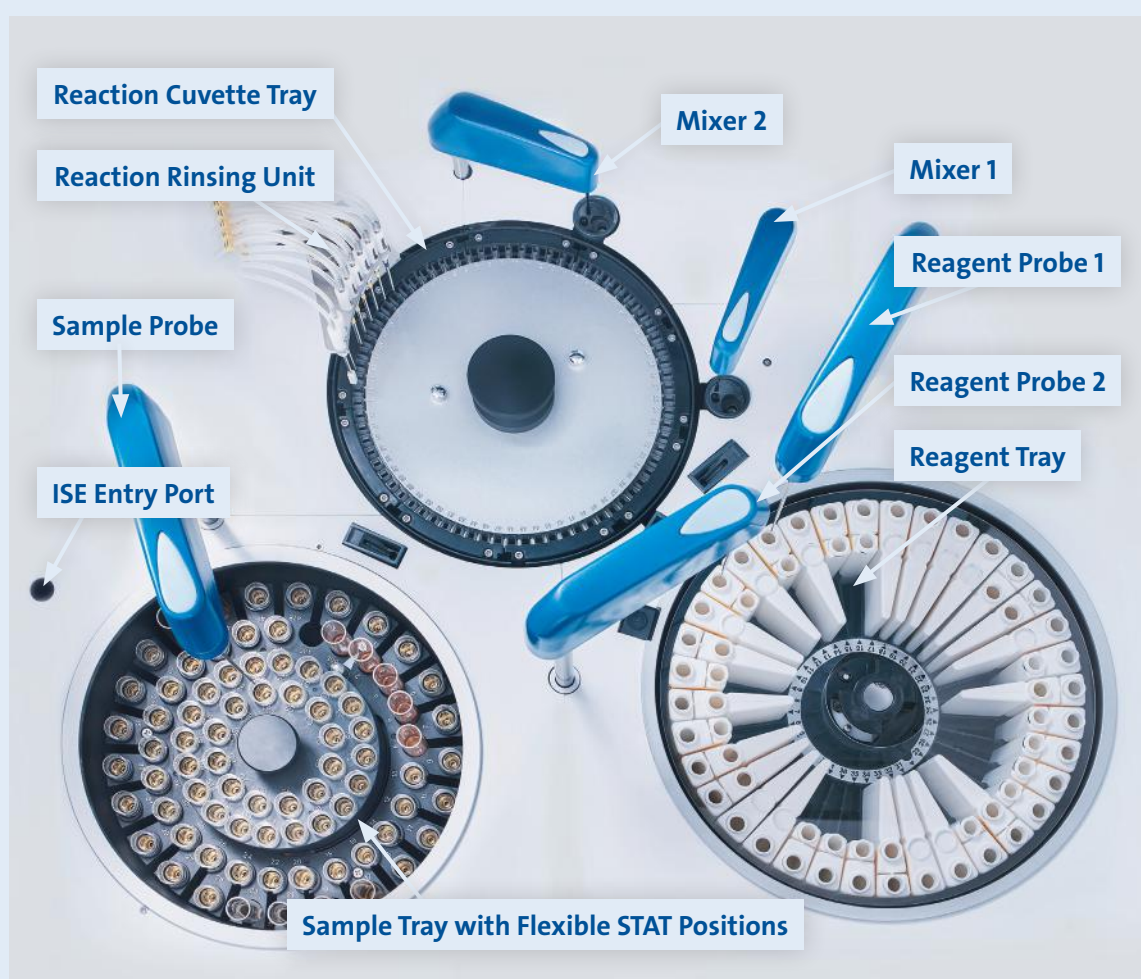
DiaSys

Diagnostic Systems

CHOOSING QUALITY.

respons[®]940 at a Glance

respons[®]940 is a fully automatic random access analyzer with a true throughput of 400 tests/hour (640 incl. ISE). Due to durable hard glass cuvettes, low reaction volumes, maintenance free photometer and intuitive software, respons[®]940 offers the economic use and reliability required in small to medium sized labs.



- System solution consisting of respons[®]940 analyzer with touch screen operation, dedicated system reagents and perfect service
- Intelligent software and modern hardware features
- Highest result security by CE-marked applications including carry over evasion list
- Economical operation by using dedicated DiaSys high quality reagents with extended onboard-/calibration stability and wide measuring ranges
- Maximum user safety by dome monitoring and smart pause function



Sample Tray

- 80 positions in total
 - 50 positions (outer rings) with auto-barcode reading
 - 30 positions (inner rings) for calibrator, controls, standards, blanks
- Hosting all major primary tubes and sample cups
- Sample indices (Hemolytic/Icteric/Lipemic)
- Processing STAT samples with highest priority (flexible positioning on sample tray)



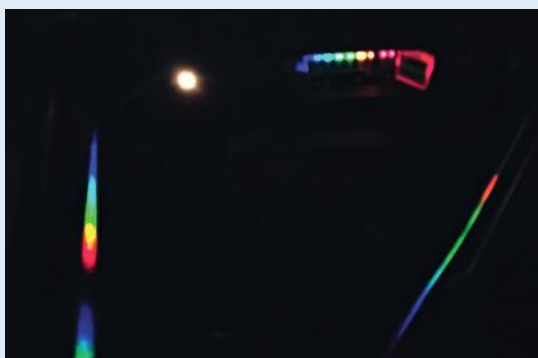
Reagent Tray

- 72 positions in total
- 36 positions for respons[®] twin containers, convenient one-grip loading
- 4 – 12°C, refrigerated by Peltier element
- Reagent Location Plate to reduce evaporation
- User protection by dome monitoring; continuous loading via smart pause function



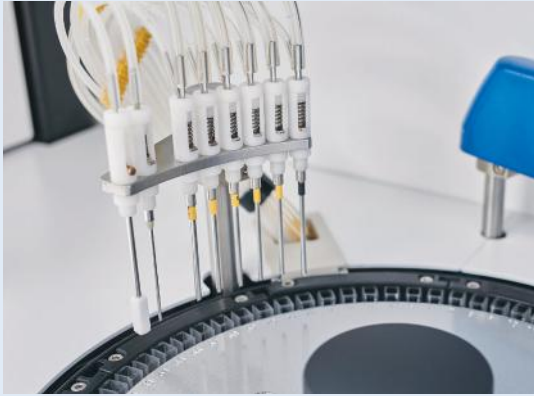
Reaction Cuvette Tray

- 72 permanent hard glass cuvettes ensure longest life time
- Maintenance free heating system
- Accurate thermostatic control @ 37°C ± 0.2°
- Minimum reading volume of 180 µL
- Minimized carry over by intelligent software and carry over evasion list



Photometric Unit

- 12 wavelengths: 340, 376, 415, 450, 480, 505, 546, 570, 600, 660, 700, 750 nm
- Wavelengths separation by diffraction grating, no deterioration of filters
- Wide photometric linearity up to 3 Abs
- Resolution of 0.0001 OD
- Twin test functionality for DiaSys HbA1c net FS application



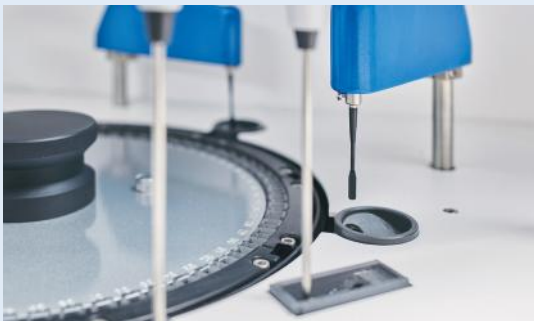
Wash Station

- Eight step auto-washing
- Special pre-programmed washing procedures, carry over evasion list
- Two different washing solutions to minimize carry over
- Low water consumption of ≤ 13 L/h



Pipetting Units

- Three independent high accuracy pipetting units with crash and liquid level detection:
 - R1 probe: 50 – 300 μ L (increments of 1 μ L)
 - R2 probe: 10 – 300 μ L (increments of 1 μ L)
- Sample probe: 2 – 70 μ L (increments of 0.1 μ L), clot detection
- Internal and external probe cleaning
- Smart inventory monitoring



Mixers

- Two high performance immersion mixers
- Teflon coated
- Special pedal shape design for perfect homogeneity
- Three variable mixing speeds



ISE Module

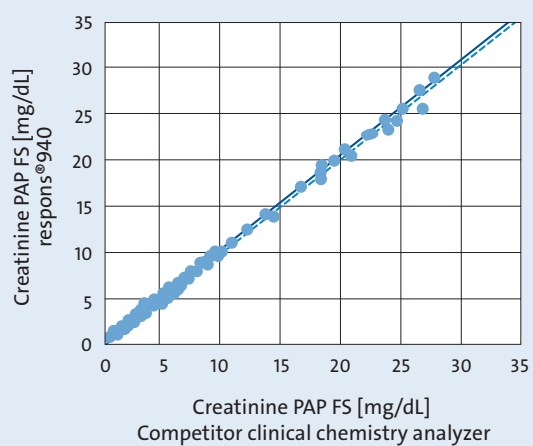
- Integral sample entry port
- Direct measurement of electrolytes
- Na, K, Cl, Li individual electrodes
- Easy access
- Long life time (10000 samples or 6 months)



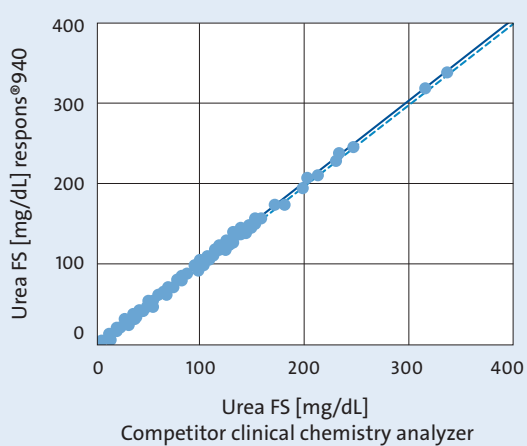
Precision

Parameter	Unit	In series (n=20)		
		Mean	SD	CV [%]
Creatinine PAP FS	mg/dL	0.66	0.01	0.89
Calcium P FS	mg/dL	12.8	0.12	0.95
α-Amylase CC FS	U/L	109	0.69	0.63
Gamma-GT FS	U/L	84.0	0.88	1.05
Uric acid FS TOOS	mg/dL	2.77	0.02	0.68
Urea FS	mg/dL	153	0.78	0.51
Triglycerides FS 10´	mg/dL	84.6	0.60	0.66

Method Comparison Creatinine



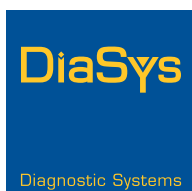
Method Comparison Urea



Technical Specifications	
System type	Automated random access clinical chemistry analyzer
Throughput	400 photometric tests, independently of mono- or two-component reagents 640 test/h including ISE
Reagent on board capacity	Max. 72 reagent positions (R1 + R2), up to 36 methods in barcoded respons [®] mono or twin containers for adapter free one grip loading
Analytical methods	1-point, 2-point Rate-A, Rate-B, direct potentiometric ISE, cubic spline, 4P logitlog, 5P logitlog
Calibration	Linear (one point, multi point), exponential, polynomial, factor
Measuring principle	Colorimetry (rate/end point), Immunoturbidimetry
Ion measurement	Direct potentiometry: Na, K, Cl, Li
Sample disk	80 positions for sample, blanks, standards, calibrators, controls, STAT samples and ISE solutions
Sample pipetting	2–70 µL (adjustable in 0.1 µL steps) Clot detection for sample probe
Serum indices	Detection of lipemic, icteric and hemolytic samples
STAT analytics	Several flexible positions
Sample tubes & cups	Primary tubes of 5, 7 & 10 mL and sample cups
Barcode identification	For samples and reagents
Reagent pipetting	Reagent 1: 50–300 µL in 1 µL steps Reagent 2: 0 µL, 10–300 µL in 1 µL steps
Mixing system	2 independent stirrers with 3 mixing speeds
Reading volume	180 µL
Quality control	Levy Jennings graphs, Westgard rules and Twin Plot Management for 4 level of controls
Utility programmes	Carry over evasion, cuvette skipping, different washing programs
Photometry	12 wavelengths: 340, 376, 415, 450, 480, 505, 546, 570, 600, 660, 700 and 750 nm Wavelengths separation by diffraction grating, twin-test functionality
Photometric linearity and resolution	Linearity: 0 – 3.0 OD Resolution: 0.0001 OD
Light source	Halogen lamp 12 V/20 Watts
LIS connectivity	Yes
Water consumption	< 13 liters per hour
System interface	Analyzer PC: USB 2.0 bi-directional for Pentium IV or higher, PC interface
Power source / Power consumption	AC 110 V +/-10%, 60 +/-1 Hz or 220 V +/- 10%, 50 Hz +/-1 Hz – switchable 800 VA
Dimensions	91 cm (W) x 78 cm (D) x 116 cm (H)
Weight	Approximately 200 kg



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