Automated Biochemical Analyzer

SpotChem D-Concept 2c/2e

SpotChem D-Concept 2c SD-4830 | Biochemistry/centrifuge model

SpotChem D-Concept 2e SD-4840 | Biochemistry/electrolyte model

Connecting to the future with the experience and technology we have cultivated

Pursuing further usability using Mobile device

arkray,inc.

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SpotChem D-Concept 2e SD-4840 Biochemistry/electrolyte model

Pursuing the future extensibility,
usability and understandability.

Image after installation
Top row: SD-4840
Bottom row: SD-4830

Compact design

ARKRAY's dry chemistry technology is compactly condensed in the product.
It can be operated by mobile device (Wi-Fi connection), and multiple units can be managed by a single mobile device.
The measurement units can be stacked up to two stages according to needs.
*Wi-Fi router is necessary when connecting multiple units to a single mobile device.

Simple design

A sophisticated design with a sense of unity by coloring in white similar to other ARKRAY products.
A wireless connection between a printer (optional) and the instrument enables to print measurement results and instrument parameters.

Pursuing further usability

Mobile device as an operator panel adopted

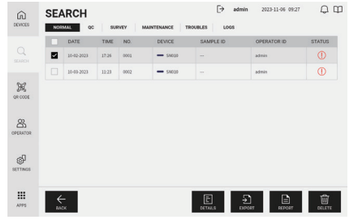
Enables to operate the main body of the instrument, check measurement results, and perform quality control.

- Intuitive operation
  Intuitive operation is possible with the touch panel.
- Easy-to-see screen
  Instrument status and measurement status can be graphically displayed.
  Measurement results and various histories can be checked on the screen.
- Calibration available with ease
  Calibration can be performed only by reading the 2D code printed on the reagent's outer box with the mobile device (can also be calibrated with the attached barcode reader).
- Calculation items supported
  Calculate the result of LDL, n-HDL, GLOB, UN/CRE, AST/ALT, Na/K and A/G by calculating each measurement value of required items.
  (Setting is required for the use of calculation items.)
  (Error may increase since it is calculated from each measurement value.)

*As “Simple mode” is equipped, measurement can be performed even in the case a mobile device cannot be used.

Measurement operations can be completed on a mobile device

By reading reagent information with a mobile device, calibration can be performed.



The screen of measurement results list.

Making the testing for primary care accessible for anyone

Testing by disease or purpose with multiple reagent

The multiple reagent is a single test strip to enable to measure multiple items. Maximum of 12 items can be measured simultaneously with 1 multiple reagent and 6 single reagents. The combination of reagents enables sets of testing according to different diseases and purposes.

Left: Single reagent Right: Multiple reagent

Waste-free individual package for reagents

Since dedicated reagents are packaged individually, there is no waste of reagents and no need for preparation of reagents.

Dry chemistry method adopted

Measurement by dry chemistry method requires neither water nor discharging of waste solution. Therefore, clean up and maintenance after measurement become easier.

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SpotChem D-Concept 2c

SpotChem D-Concept 2c SD-4830 Biochemistry/centrifuge model

Eliminating pre-processing of the whole blood and measuring maximum of 12 biochemistry items is available.

Eliminating pre-processing of the whole blood sample with built-in centrifuge.

As for biochemistry items, 6 single reagents and 1 multiple reagent can be set, enabling simultaneous measurement for maximum of 12 items.

For example, when measuring multiple reagent “Total-B” and single reagent “CRE2”, the test results are displayed in approximately 14 minutes.

Measurement flow
<For whole blood samples>

Set the dispensed whole blood sample in the centrifuge.

Set the reagent corresponding to the measurement item.

Press the start button, then fully automated measurement starts.

Automated Biochemical Analyzer

SpotChem D-Concept 2e

SpotChem D-Concept 2e SD-4840 Biochemistry/electrolyte model

Maximum of 12 biochemistry items and 3 electrolyte items can be measured simultaneously.

As for biochemistry items, 6 single reagents and 1 multiple reagent can be set, enabling simultaneous measurement for maximum of 12 items.

In addition to the biochemistry items, the electrolyte items,

Na, K and Cl can also be measured simultaneously.

For example, when measuring multiple reagent “Total-B”, single reagent

“CRE2” and electrolyte, the test results are displayed in approximately 16 minutes.

Measurement flow

Set centrifuged samples (serum and plasma) in cuvette case

When measuring electrolytes, set the electrolyte plate

Set the reagent for the item to be measured

Press the start button and the measurement will start automatically.

Specification	SD-4830 Specifications	SD-4840 Specifications
Measurement Objects	Serum, Plasma, Whole blood	Biochemistry: Serum, Plasma / Electrolyte: Whole blood, Serum, Plasma
Reagents	SPOTCHEM D single reagent, SPOTCHEM D multiple reagent	SPOTCHEM D single reagent, SPOTCHEM D multiple reagent SPOTCHEM D electrolyte plate
Measurement parameter	Biochemistry: GLU,UA,TC,TG,UN,T-BIL,Ca,TP, ALB,AST(GOT),ALT(GPT),LD,CK,AMY,GGT, ALP,CRE,HDL,FRA,IP,Mg	Biochemistry: GLU,UA,TC,TG,UN,T-BIL,Ca,TP, ALB,AST(GOT),ALT(GPT),LD,CK,AMY,GGT, ALP,CRE,HDL,FRA,IP,Mg Electrolyte: Na, K, Cl
Measurement Principle	Endpoint method and reaction rate method using dual wavelength reflectance photometry	Biochemistry: Endpoint method and reaction rate method using dual wavelength reflectance photometry Electrolyte plate: Potentiometric method using ion-selective electrodes
Measurement Wavelength	405 nm, 550 nm, 575 nm, 610 nm, 820 nm	
Reagents measurable at once	6 single reagents, 1 multiple reagent	6 single reagents, 1 multiple reagent, 1 electrolyte plate
Processing speed	Reagent reaction time + approx. 2 min 30 sec.	Biochemistry measurement: Reagent reaction time + approx. 2 min 30 sec. Electrolyte measurement: approx. 4 min
Sample consumption	Biochemistry measurement: approx. 6 µL per item	Biochemistry measurement: approx. 6 µL per item Electrolyte measurement: approx. 22 µL
Required sample vol.	When using a cuvette: 30 µL + sample consumption volume per measurement When using a centrifuge container: approx. 530 µL	When using a cuvette: 30 µL+ sample consumption volume per measurement
Sample Container	SPOTCHEM D dedicated cuvette, SPOTCHEM D dedicated centrifuge container	SPOTCHEM D dedicated cuvette
Startup time	Approx. 8 minutes (at room temp. of 25 °C)	
Measurement environment	Temperature: 10 to 30 °C Humidity: 20 to 80 % R.H. (no condensation)	
Dimensions*	360 (W) x 290 (D) x 160 (H) mm	
Weight*	Approx. 10 kg	
Power Supply Voltage	AC100～240 V ± 10 %,50/60 Hz	
Data storage capacity	300 measurements	
External Output	RS-232C compliant Communication method: one-way, two-way communication method Communication speed: 2400/4800/9600/19200 bps Ethernet communication standard: 10BASE-T/100BASE-TX USB (Type-A) for USB f lash drive	
Charging port	USB (Type-C) DC5V/2A or less	
Printer	58mm wide thermal paper printer (optional)	

*Mobile device is not included. Main unit only

Legal manufacturer

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*Designs and specifications may be changed without prior notice.

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