

HITACHI AUTOMATIC ANALYZER

7180

Automatic Analyzer

7180

注意

为了正确、安全地使用本仪器，务请遵守下列的事项。

- 1) 使用时，务必阅读“使用说明书”。
- 2) 对于自动分析仪器，务请使用体外诊断用医药品。
- 3) 有关仪器的废液，务请按照法令及条令等规定予以处理。
- 4) 有关进修会、维护、服务等事宜请与就近的营业所洽谈。

주의사항

바르고 안전하게 사용하기 위하여 다음 항목을 준수하여 주십시오.

- 1) 사용시에는 꼭 [취급설명서] 를 읽어 주십시오.
- 2) 자동분석장치에는 체외진단용 의약품을 사용하여 주십시오.
- 3) 장치의 폐액은 법령 및 조례 등의 규정에 따라 처리하여 주십시오.
- 4) 연수, 보수, 서비스에 대해서는 가까운 지점으로 문의하여 주십시오.

NOTICE: For proper operation, follow the instruction manual when using the instrument.

Specifications in this catalog are subject to change with or without notice, as Hitachi High-Technologies Corporation continues to develop the latest technologies and products for our customers.

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Formulated on the concept of ultimate ease of use

Clinical laboratory activities today require even more versatile functional features in instrumentation. What's the primary key to increasing the reliability in data detection using an automatic clinical analyzer? Hitachi believes that it is enhancement of operability.

Hitachi Model 7180 automatic analyzer has been developed as a successor to Model 7170/7170S which has earned a high reputation in the field of clinical analysis. More than 3500 units of Model 7170/7170S are now working in clinical laboratories world-wide.

The Model 7180 automatic analyzer, designed with particular emphasis on ergonomics, provides superlative ease of use as well as excellent analytical performance.

“追求操作方便”正是我们的出发点。

随着时代发展和临床的需要，临床检验业务越来越呈现出多样化倾向。

当此之际，要进一步提高自动分析仪化检验数据的可靠性，关键何在？

日立公司认为：首先要提高操作性能。

日立自动分析仪“7180型”是作为“7170/7170S型”的下一代产品研制出来的。

现在已有3500多台“7170/7170S型”产品为世界各国各检验机构所采用，活跃在健康检查的第一线。

它采用以人类工程学为基础的造型设计，具有卓越的高性能，

加之以彻底的操作方便的特点。

'사용하기 편리함의 추구'

HITACHI

시대의 요구로 더욱 다양해져가는 임상검사 업무에 자동분석장치에 의한 데이터 검출을 보다

신뢰성 있게 높여가는 방법은 어디에 있겠습니까?

그것은 조작성의 향상이 첫 번째라고 Hitachi 는 생각합니다.

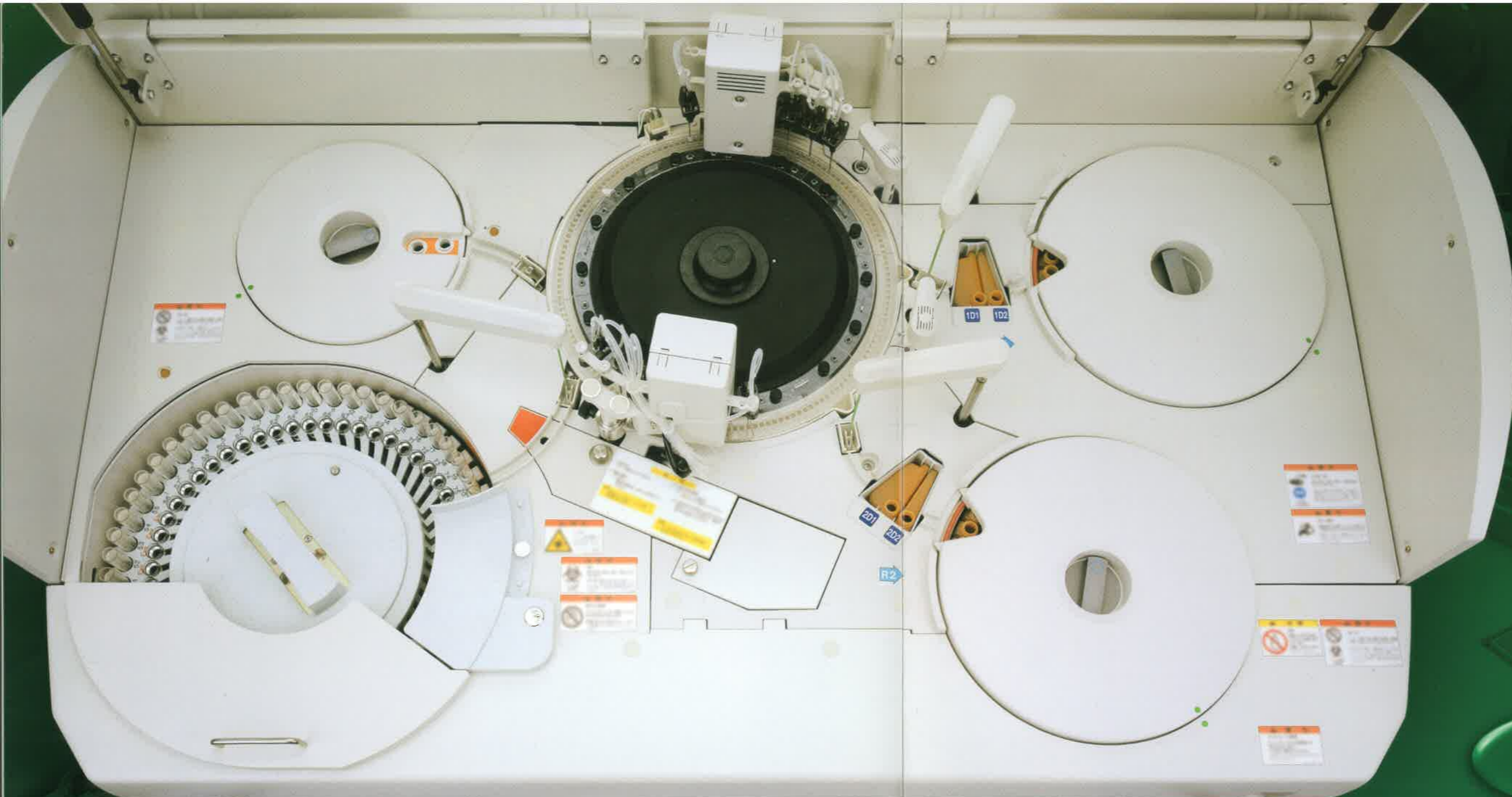
Hitachi 자동분석장치 [7180형] 은 세계 각국의 다양한 검사기관에서 3,500대

이상이 설치된 [7170/7170S] 의 후속모델로서 개발되었습니다.

인간공학에 기초한 디자인 설계의 채택으로 탁월한 고성능을 부가하여 조작의 용이성을

추구하였습니다.





Automatic Analyzer
7180

Powerful analytical capabilities

精确的分析能力

확실한 분석능력

Highly efficient analysis of up to 800 tests per hour

每小时800项测试的高效率分析

최대 800 tests/hr 의 고효율 분석을 실현 (전해질 분석장치 포함시 1200 test/hr)

Capable of carrying out high-speed processing at a rate of up to 800 tests per hour. Having random access and reagent pipetting functions, the 7180 delivers highly efficient analytical operation. With the optional electrolyte analysis unit, the efficiency of analysis can be enhanced to a rate of up to 1,200 tests per hour.

A maximum of 86 simultaneous test items

每样品可同时测定1-86项目

동시 최대 86 항목 분석능력 (전해질 분석장치 포함시 89 항목)

Up to 86 test items can be analyzed simultaneously. With the optional electrolyte analysis unit, it is possible to simultaneously analyze up to 89 test items.

Reaction time selectable in a wide range from 3 to 22 minutes

反应时间选择幅度大, 可在3分钟至22分钟之间进行选择

3분에서 22분까지 폭넓은 반응시간 선택

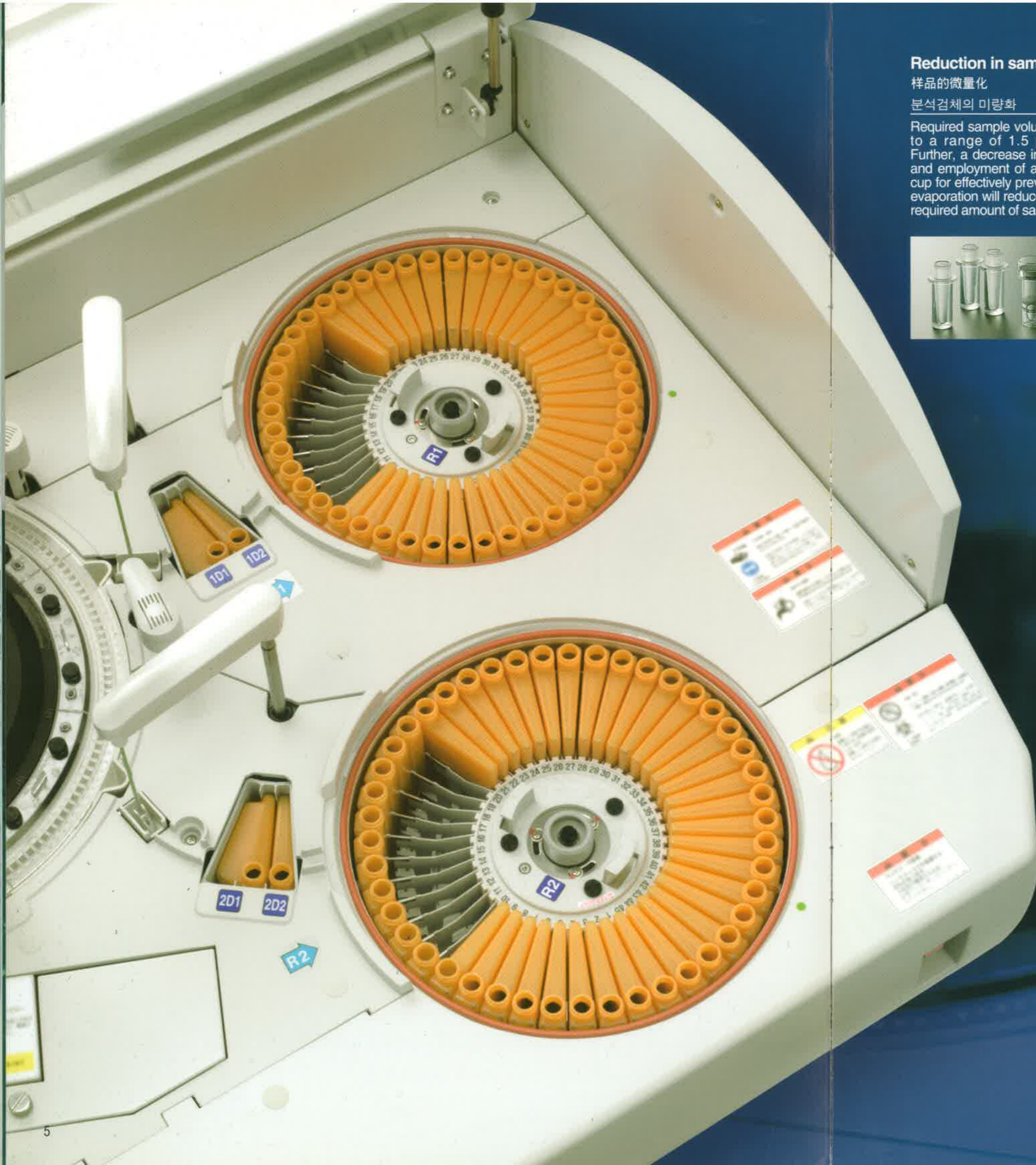
A reaction time ranging from 3 to 22 minutes can be selected as required. One to four reagents to be added are also selectable. Two-reagent analysis is allowed even for short-reaction time test items (3, 4, 5 minutes) such as stat test items. Moreover, using a reagent addition timing sequence, it is permitted to perform reaction solution stirring alone.

Intelligent scheduling

智能调度功能

Intelligent Schedule 기능

Equipped with an intelligent scheduling function for minimizing the result report time. Sampling is performed in descending order of reaction time periods required for test items.



Reduction in sample volume

样品的微量化
분석검체의 미량화

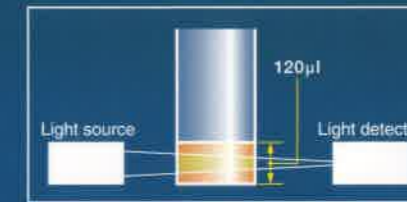
Required sample volume is reduced to a range of 1.5 μ L to 35 μ L. Further, a decrease in dead volume and employment of a micro-volume cup for effectively preventing sample evaporation will reduce the minimum required amount of sample.



Reduction in reaction solution

反应液量的微量化
반응액량의 미량화

A novel optical system incorporated in the 7180 delivers a finer light beam with an increased light intensity. Stable data photometry is permitted even with a minimum reaction solution volume of 120 μ L.



Realtime rerun and batch rerun

具有实时再检和批量再检功能
실시간 재검사와 Batch 재검사

The user can select a realtime rerun operation to be performed immediately after output of analytical result data or batch rerun operation to be performed after all samples on a sample disk are analyzed.

Carryover evading function that does not degrade analytical performance

具有确保处理能力的抗交叉污染功能
분석능력을 유지하는 Carry Over 회피기능

Carryover evasion is applied so that the analytical performance of the 7180 is not degraded wherever possible. When there is a possibility of cross contamination, the intelligent scheduling function automatically rearranges the sampling sequence. If rearrangement of the sampling sequence is not allowed, a measurement is skipped over and reagent cleaning is carried out instead.

Sample cooling compartment that suppresses condensation of solutions

减少样品浓缩的样品冷藏仓
정도관리물질을 장시간 안정되게 유지시키는 보냉고

The sample disk for standard solutions and control serum samples is kept cool for suppressing condensation due to deterioration or evaporation. This ensures highly accurate analysis for a long time.



Routine operation supported by superb analytical accuracy

支持日常工作的极高分析精度

높은 분석정도가 Routine을 지원

Automatic Analyzer

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User friendliness helps to unleash the full potential of the automatic analyzer

为使用者着想，是发挥产品实力的第一步。

사용자에 대한 배려는 실력 발휘의 첫걸음

Equipped with probe guards

保持采样针导向的装备

움직이는 시약, 샘플 프로브를 보호할 수 있는 장치

For the sample and reagent probes, contact-protective guards are provided on probe movement paths.



Sample disk having a free adapter

各种采血管的样品盘

프리 어댑터 부착 샘플디스크로 자유로운 샘플용기 선택

The sample disk has a free adapter for allowing the user to set sample cups and sample tubes* of different sizes.



* Outside diameter: 13, 16 mm
Length: 75, 100 mm

Reagent bottles settable as required

多规格试剂瓶任意设置

시약용기의 자유로운 장착이 가능

On the reagent disk, 7-mL, 20-mL and 70-mL reagent bottles can be set directly without an adapter. The reagent barcode function eliminates the burdensome task of manual channel setting, preventing a channel setting error. Furthermore, two or more bottles can be set for a reagent that is consumed in large quantity for frequently requested test items. Reagent lot control and expired control are easy to conduct on this automatic analyzer.



Timer function for automatic wakeup

定时器功能自动开机

타이머 기능으로 자동실행기능

In the sleep mode setting, the user can set an automatic wakeup time. Thus, the 7180 will be put in a standby state before the user shows up for work.

Online help function

在线帮助功能

Online Help 기능

The user can refer to a detailed description of operational procedures online as needed. Even when the user is not yet familiar with the operational procedures, the online help function lets the user operate the 7180 assuredly.

Enhanced operability

提高操作性能

조작성의 향상

Based on the Windows®, the software of the 7180 is designed to provide enhanced operability. Using the touch screen, keyboard and mouse in combination, the user can perform a variety of operations with ease.



* Windows is a registered trademark of Microsoft Corporation in the U.S.A. and other countries.

Operator ID function

规范化智能 ID 权限功能

사용자 ID 기능



A combination of an operator ID and a password ensures higher traceability.



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Note)
Photographed with the sample cover removed.
Do not remove the sample cover during analytical operation.

Intelligently flexible capabilities to meet any analytical needs

可以灵活而迅速地满足任何分析需求。

어떤 분석요구에도 신속하고 원활하게 대응

Stand By 37.0 Operator ID: HITSRV Fri 02/03/04 09:36

Workplace Reagent Calibration QC Utility

Test Selection Data Review

Stat
 Routine
 Control

Sequence No.: 1 0 1
 Sample ID:
 Disk - Position:

Sample Type: Other
 Sample Cup: Standard Cup
 Sample Volume: Normal

Default Profile: A SET Record Space: 9995 Page Select: 1 2

ISE	ID	AST		ALP	AMY	CHE	CPK	TP	ALB	BUN	UA	CRE	
Til	D-bil	FE	Mg	Ca	UIBC	CRP	AFP	IgA	IgM	IgG	HbA1C		
A SET	B SET	C SET											

Demographics Define Profile Go To... Previous Next
 Repeat... OK

Select the processing type to Test Selection screen is displayed.

Start Cond.
 Sample Stop
 Stop
 Sample Track
 Print
 Alarm
 Help
 Sleep Exit

Flexible analytical conditions

灵活的分析条件
유연한 분석조건

For each test item, a reaction time ranging from 3 to 22 minutes and one to four reagents to be added are applicable in combination. It is allowed to set up a sample volume in increments of 0.1 μL and a reagent volume in increments of 1 μL . The 7180 is thus capable of working flexibly for new kinds of test items and assays.

A variety of assays supported

可适应多种多样的分析方法
다양한 분석방법에 대응

20 kinds of assays including end-point, two-point, rate and isozyme assays can be combined at the discretion of the user. It is also possible to carry out prozone check and serum index measurement.

Automatic calibration specific to each kind of reagent

自动校正功能: 适用不同试剂种类
시약에 따른 자동 Calibration

Besides ordinary calibration, the user can specify automatic calibration for setting a time interval and other parameters.

Automatic sample pre-diluting function

分析前自动样品稀释功能
자동검체전희석기능

The sample diluting function and the standard solution diluted series preparation function are incorporated. Tiresome diluting operations such as for rerun, dilution of a series of aliquots, and dilution for immunity test items can be left to the 7180.

Per-test measurement result check permitted

每个测定结果逐项确认功能 Complete
테스트중에도 측정결과 확인이 가능

The measurement results of each test can be checked on screen. The analyst at the 7180 can therefore respond to an expeditious inquiry from medical care staff. Moreover, in stat sample measurement, per-test result data can be transmitted to the host computer.

Predicated time indication of result data output

结果报告时间预测表示功能
결과출력 예상시간 표시

A predicated time of result data output can be checked on screen, thereby allowing the analyst to respond smoothly to medical care staff.

High reliability supported by versatile functions

丰富多采的功能，以保障可靠性

다양한 기능이 신뢰성을 향상



Personal computer, monitor, printer, and PC table is not shown in this photo.
Also, PC table is not included in this instrument.
Please contact our sales office for the purchase of the PC table.

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Abnormal cell skipping with indication of cuvette number

自动避开异常反应杯，并表示号码
셀변환을 표시하는 이상 셀 스킵기능

Upon detection of an abnormal cell in water blank measurement before analysis, it is automatically skipped over for exclusion from analysis. Furthermore, if an abnormality occurs successively on a particular cuvette, its number is indicated to the user.

Cuvette washing with acidic or alkaline detergent

使用酸性、碱性清洗剂的自动清洗功能
산, 알칼리세정에 의한 셀 세정기능

Each cuvette is washed with acidic or alkaline detergent. Kind of detergent is specifiable for each test item.

Maintenance monitoring for informing the user of the time for checkup

提示保养时间的维修监视功能

점검시점을 알려주는 Maintenance 모니터 기능

On the operation information control window, the user can monitor the maintenance time for each part to be replaced periodically.

Remote support service

远程维护功能

Remote Support 기능

The operating conditions of the 7180 can be monitored remotely for preventive maintenance. In the event of an emergency due to a failure, remote control service can be provided for taking a prompt countermeasure based on operational data.

*The remote support service is available in Japan only.

Batch preparative operation

一系列准备动作功能

일괄준비작동 기능

By pre-registering maintenance items, they can be carried out in succession at the time of system startup or at the end of routine operation.



Meticulous care for stable, dependable analysis

细心的服务赢得更切实的安心和信赖。

세심한 주의로 보다 확실한 안심과 신뢰를

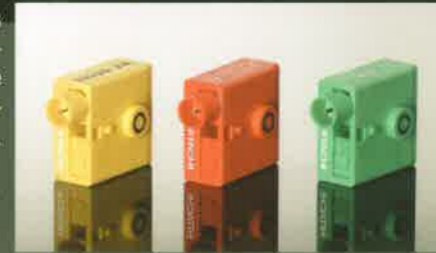
Optional accessories & Others / 任选件 其他 / 옵션 등

Electrolyte analysis unit (option)

电解质分析附件 (任选件)

전해질분석 부속장치 (옵션)

Simultaneous analysis is possible with flow-type ion selective electrodes (Na⁺, K⁺, Cl⁻).



The built-in laser bar code elements prevent from errors in handling samples.

Sample ID accessory (option)

样本 ID 附件 (任选件)

검체 ID 부속장치 (옵션)



Hitachi 340 kit

日立340波长检定试剂盒

Hitachi 340 kit

A dedicated kit is available for overall instrument performance check.



Electrode calibrators and control samples unique to Hitachi are available for ensuring high accuracy in measurement.

Calibrator and control samples

校准物/质控样本

Calibration / Control



Detergents / 清洗剂 / 세정액

Use Hitachi genuine detergents for maintenance and control of the 7180.

- HITERGENT:** Contains an antibacterial detergent for ensuring stability of the incubator.
- HIALKALI-D:** Useful for washing reaction cuvette.
- ISE DETERGENT (N):** Useful for cleaning the flow path and electrodes of the electrolyte analysis unit.
- HICHOLOGENT:** Applicable to cleaning tubes.
- HICARRYNON:** Applicable to washing for carry-over evasion.



Automatic Analyzer 7180

Standard specifications / 标准规格 / 표준 사양

Standard specifications / 标准规格 / 표준 사양

Item / 項目 / 항목	Description
Throughput / 处理能力 / 처리능력	Max. 800 tests/hour (Max. 1,200 tests/hour with optional electrolyte analysis unit)
Number of simultaneous test items / 同时分析项目数 / 동시분석 항목수	Max. 86 test items (Max. 89 test items with optional electrolyte analysis unit)
Assays / 分析方法 / 분석법	20 assays including end-point, 2-point, rate assay, etc. Electrode method (option)
Sample volume / 样本量 / 검체량	1.5 to 35 µL/test (in increments of 0.1 µL)
Reagents / 试剂 / 시약	1 to 4 reagents, each having a volume of 20 to 270 µL/test (in increments of 1 µL), Final reaction solution volume: 120 to 300 µL/test
Number of samples accommodated / 样品架设数 / Sample 동시검차	Turntable type Routine and stat samples (110) Control and standard solutions (57) Detergents (3) : In cooling compartment
Sample cups / 样品杯 / Sample 컵	Polystyrene containers Hitachi standard cups Hitachi micro-volume cups (mode of polyethylene)
Reagent bottle capacity / 试剂瓶 / 시약용기	7 mL, 20 mL, 70 mL
Reagent cooling compartment / 试剂冷藏库 / 시야보냉고	45 positions on R1, 44 positions on R2 All reagents cooled
Detergents / 清洗剂 / 세제	Two kinds of detergents for washing probes (70 mL and 140 mL, outside the reagent disk) Two kinds of detergents for washing reaction cuvette
Reaction disk / 反应盘 / 반응디스크	Turntable
Reaction cuvette / 反应杯 / 반응용기	Plastic, semi-disposable (Optical path length: 5 mm)
Reaction time / 反应时间 / 반응시간	3, 4, 5, 10, 15, 22 minutes (Settable for each test items, Throughput decreases when a reaction time of 15 or 22 minutes is set.)
Reaction temperature / 反应温度 / 반응온도	37°C ±0.1°C
Stirring / 搅拌 / 교반	Immediately after each reagent is pipetted
Measuring wavelength / 测试波长 / 측정파장	340 to 800 nm (12 wavelengths invariable)
Photometry / 测试方法 / 측정법	1-wavelength or 2-wavelength simultaneous photometry
Data processing functions / 数据处理功能 / 데이터처리기능	Automatic calibration, Multi-point calibration, Polygonal line calibration, Calibration point selection, Colorimetric assay calculation, Rate assay calculation, Isozyme assay, Serum indexes, Sample blank compensation, Test-to-test calculation, Realtime QC, X-R control, Automatic rerun, Calibration trace, Test counting, Prozone check in all assays, Data storage (10,000 samples including routine and stat samples)
Printout documents / 打印报告 / 출력형태	Analysis result (monitor/report format), Worksheet, Rerun list, Calibration report, Photometer check list, QC list, Alarm trace, Operation trace, Communication trace, Reaction process monitor, Calibration curve hard copy, QC chart hard copy, Operation information control data, Calibration result list
Support functions / 支持功能 / Support 기능	Reproducibility calculation, Sleep mode, Operation information control, Kind-of-sample setting, Easy to use stat analysis, Operator ID control, Online help, Remote support
Auxiliary storage / 辅助记忆装置 / 보조기억장치	Hard disk
Printer / 打印机 / 프린터	Dot-matrix printing, 80 characters per line
Input / 输入 / 입력	Touch screen, Mouse, Keyboard
System interface / 系统接口 / 시스템 인터페이스	RS-232C (standard), Current loop (option)
External dimensions and weight / 外型尺寸、质量 / 외형치수, 무게	Analytical unit: 1,448 (W) × 800 (D) × 1,230 (H) mm, Approx. 400 kg Operating section: Varies depending on the layout of the CRT display, personal computer and printer, Approx. 30 kg
Power supply / 设置电源 / 설치전원	220 V AC, 50/60 Hz
Power consumption / 最大消耗电量 / 최대소비전력	2.0 kVA

Example of system layout / 配置例 / 배치 예



Installation conditions / 设置条件 / 설치조건

Item / 項目 / 항목	Description
Power requirements / 电源环境 / 전원환경	200 V AC ±10%, 50/60 Hz Through a switchboard with a no-fuse circuit breaker (30 A)
Grounding / 接地线 / 접지	Necessary (ground resistance of 10 Ω or less)
Ambient temperature / 周围温度 / 주변온도	15 to 32°C (variation within ±2°C during operation)
Ambient humidity / 周围湿度 / 주변온도	45 to 85%RH
Deionized water supply pressure / 离子交换装置供水压力 / 이온교환장치 수압	49 to 343 kPa
Drain port / 排水口 / 배수구	Caliber: 50 mm or more, Height: 100 mm or less

* Prepare a deionized water supply unit having an outlet water pressure of 49 to 343 kPa. For details, contact your local sales representative.