

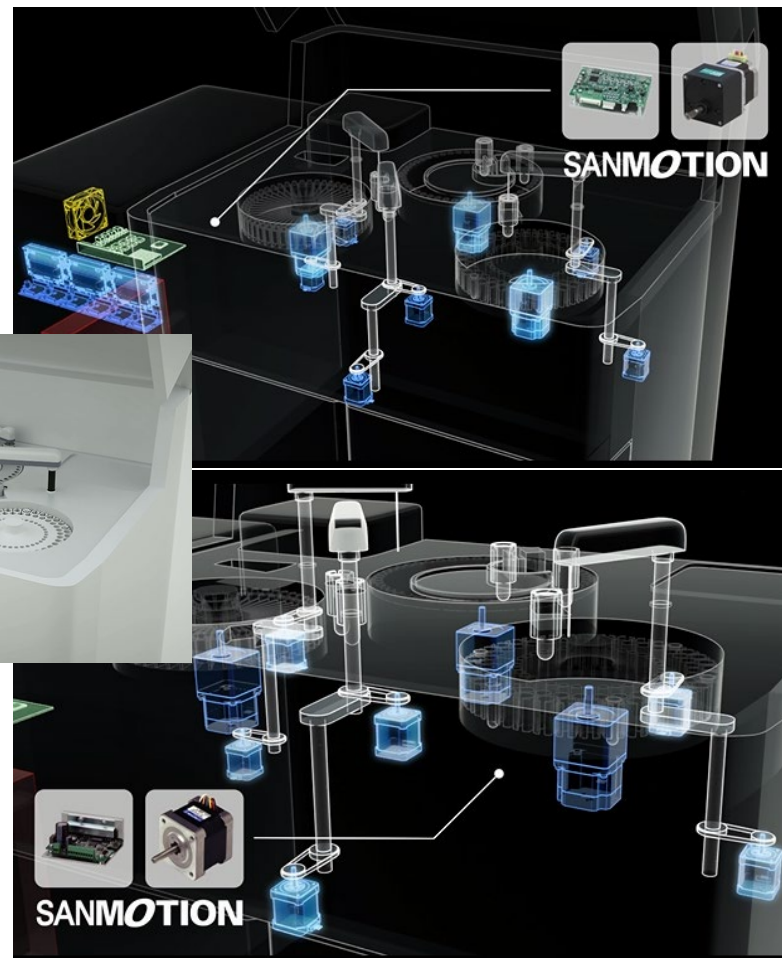
# Blood Analyzer

## Description

A blood analyzer, also known as a biochemical analyzer, tests urine samples or samples of the pale yellow supernatant portion (serum) of centrifuged blood, by inducing reactions with reagents to measure the component of the samples. such as sugars, cholesterol, proteins, and enzymes.

These tests are performed during routine health checks. The results provide objective data used for the early detection and diagnosis of diseases, and also for determining the effects of treatment and patient prognoses.

Stepping motors are used in the specimen tray, turntable, and the pipette rotation axis. Blood analyzers are now widely used in the world. Machines in different sizes, higher reliability, lower vibration, and noise level are developed by manufacturers all over the world.



## SANYO DENKI Proposal

### Product used:

Controller: Customer developed PC based controller

Driver: 1) 2-phase DC input driver BS1D200P10  
OR 2) 5-phase DC input driver F5PAE140P100

- Motor:
- 1) Specimen tray: 2-phase stepping motor 42 mm sq., 56 mm sq., or 60 mm sq.
  - 2) Turntable: 5-phase stepping motor 42 mm sq., 56 mm sq., or 60 mm sq.  
Depending on the axis a stepping motor with a low backlash gear might also be used.
  - 3) Pipette: 2-phase stepping motor 42 mm sq.

## Features

### 1. Wide range of motors:

We offer all types of stepping motors: 2-, 3-, and 5-phase. (SANYO DENKI is the only manufacturer that offers all phases of stepping motor.)

Motor capacity and size: from 14 mm to 108 mm sq.  
Thin pancake type motors are also available.

### 2. Motors with high quality and reliability:

Precise product assembly and strict quality inspection are carried out at our factories in Japan and overseas. Assembly of optional components is also performed in our factories, and products are shipped only after passing performance examinations.

### 3. Customized products:

We can customize motors with the optimum windings to satisfy the unique requirements of a customer's application such as specified contract current, rotation speed, and target torque.

### 4. Wide range of drivers available for different applications:

We offer 2- and 5-phase drivers with DC inputs often used in medical machines, and AC inputs required for high torque and high speed. Our drivers can support full-, half-, and microstep driving.

## Merits

### ■ Customers can select the best motor for their goals

In addition to the standard 2-phase stepping motors, we also offer 3- and 5-phase motors with vibration suppression. Customers can select the motor most suited for their application's unique torque and size requirements.

### ■ Long product lifetime

Our high product quality ensures a long lifetime. Many manufacturers have been reliably using SANYO DENKI's stepping motors for a long period of time.

### ■ Lower vibration and noise level

Customer application performance is improved with lower vibration and motor noise levels through optimized motor windings. Optimum torque performance can be achieved within the required rotation speed range.

### ■ Rich lineup of products to satisfy customer needs

Vibration can be suppressed by a 2-phase driver with the microstepping function. A 5-phase driver can be used if further suppression is necessary to satisfy customer requirements.

## Selling Points

- Reliability is the primary requirement for medical devices. Our experienced engineers can offer the best stepping motor products (with customized motor windings) for the optimum performance and reliability of our customers' medical devices.