The Option

ThromboScan enables positive sample identification. The active switch pad detects the insertion position of the tube and sends it to Thrombolyzer. Bar code keys identify the different trays; this permits alternate processing of several trays.

Preparation of a sample tray commences by placing it in ThromboScan. A key is scanned and placed in position 1. The tubes are then consecutively scanned and inserted into the tray. A signal confirms the insertion position and sends them to Thrombolyzer. They are automatically registered according to sample tray and position.

The sample tray is placed in Thrombolyzer, and processing starts by pressing F2. The bar code key is automatically detected to register the tray, and the samples are then analysed.

The scanner is part of Thrombolyzer’s standard accessories and can also be used to enter patients’ bar code data without ThromboScan.

Technical description:

Open system for almost all reagents
Emergencies via immediate random access
Immediate result display
QC program
Multitasking with PC
Main menu for the entire system
Base for up to 10,000 patients
Current sample status display
Automatic test repetition
Capacitive level detection

Technical data:

Dimensions:
- Length: 60 cm
- Width: 60 cm
- Height: 34 cm

Weight: 50 kg

Mains voltage: 120/230 V ± 10%
Frequency range: 50 - 60 Hz
Power consumption: 400 VA

The system:

Behnk Elektronik GmbH & Co. KG
Hans-Böckler-Ring 27
D-22851 Norderstedt
Germany

Positive sample identification ThromboScan:

Thrombolyzer

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The cuvette: Plasma and reagent are simultaneously incubated in a single cuvette. This eliminates the need for direct pipetting in the measuring channels. Each cuvette has fine incisions which prevent the fluids from flowing together before measuring. The 4-fold cuvette bar is integrated into a transportation system. Cuvette bars can be replaced at any time, even during working operations.

The measuring process: Cuvette bars are transported from the register to the pipetting station. Upon completion of pipetting, the bar is transported, via sequential timing controls, through 3 incubation positions which simultaneously incubate both sample and reagent to 37°C and subsequently transported into the measuring block. The measuring block tips the cuvette down 90° into a vertical position. The steel ball, plasma and reagent are forced down to the bottom of the cuvette where the ball rotates and homogenises the mixture.

The measuring system: A circulating magnet underneath the stationary cuvette causes a steel ball to rotate. This ball optimises the gentle mixing of plasma and reagent resulting in uniform coagulation. The ball facilitates the development of fibrin threads together assuring reliable signal detection. The coagulation process is additionally monitored by a PC and compared with internal standards. In the case of a deviation, the measurement value is marked with an error flag. An automatic calibration function prevents each cuvette bar from being used more than 400 times. The measuring block uses a fiber optic system for measuring immunologic tests as well as other tests which are measured with 405 nm and 546 nm at 37°C.

The pipetting system: Plasma and reagent are distributed by a pipetting needle. To avoid carry-over, the needle is rinsed thoroughly from the inside and outside with distilled water as well as a special decontamination solution. A capacitive level sensor controls fluid removal from the collection tubes and reagent bottles.

The plasma tray: This plasma tray has 32 positions for collection tubes as well as positions for emergencies. Two of these trays can be alternately processed in Thrombolyzer for continuous operation. Each position is flexibly designed for 10-15 mm tubes. The ThrombolyzerScan in conjunction with contacts in the plasma tray assures an accurate positional registration on the PC. This position sample identification with bar code can be added to requisites.

The reagent block: The cooled reagent tray has positions for 16 large reagent bottles as well as room for 4 control plasmas. Thrombolyzer can, therefore, process up to 10 different test parameters without being refitted. In addition, up to nine blocks with different tests can be freely defined.

User-friendly software: All information and commands for routine work are in the main menu. The software has been so clearly developed that it can be mastered within a day. All data are entered entirely by using the keyboard or bar-code scanner. The system is protected from unauthorized access by utilizing different passwords.
In Detail

The cuvette: Plasma and reagent are simultaneously incubated in a single cuvette. This eliminates the need for direct pipetting in the measuring channels. Each cuvette has fine incisions which prevent the fluid from flowing together before measuring. The 4-fold cuvette bar is integrated into a transportation system. Cuvette bars can be reloaded at any time, even during working operations.

The measuring process: Cuvette bars are transported from the register to the pipetting station. Upon completion of pipetting, the bar is transported, via sequential timing controls, through 3 incubation positions which simultaneously incubate both sample and reagent to 37°C and subsequently transported into the measuring block. The measuring block tips the cuvette down 90° into a vertical position. The steel ball, plasma and reagent are forced down to the bottom of the cuvette where the ball rotates and homogenises the mixture.

The measuring system: A circulating magnet underneath the stationary cuvette causes a steel ball to rotate. This ball optimises the gentle mixing of plasma and reagent resulting in uniform coagulation. The ball binds the developing fibrin threads together assuring reliable signal detection. The coagulation process is additionally monitored by a PC and compared with internal standards. In the case of a deviation, the measurement value is marked with an error flag. An automatic measuring system can be changed to measure other tests such as chromogenic tests as well as other tests which are measured with 405 nm and 546 nm at 37 °C.

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Central bar-code scanner for the entire system
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