

*Coagulation fully automatic*



Behnk Elektronik

*We make progress visible.*



Insert and Scan

**Thrombolyzer**

*RackRotor*®

# Thrombolyzer

## *RackRotor*®

### 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 fluids 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 three 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 filter changer enables additional measurements such as chromogenic substrates and immunology, which are measured with 405 nm and 546 nm.

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 reagent block: The cooled reagent tray has positions for 16 large reagent bottles as well as room for 5 control plasmas. RackRotor can, therefore, process up to 10 different test parameters without being refitted. In addition, up to 9 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. Data is entered entirely by using the keyboard or bar-code scanners. The system is protected from unauthorised access by utilising different passwords.

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# For your Lab Clotting, Chromogenic and Immunology

100% positive



# The Rotor

**Insert and scan:** The rotor is inserted as easily as a rack. Immediately following the scan command, the rotor automatically returns to its home position and scans all samples present. Patient data is simultaneously requested from the host computer and correspondingly integrated. The system can be activated as soon as all samples have been identified.

Two rotors guarantee a continuous working routine. RackRotor automatically switches from one rotor to the alternate one as soon as all measuring results have been received. The rotor, which has already been processed, can be replaced with a new one and activated - even during the pipetting procedure.

The sample is always scanned twice: the initial scan prior to activation of the routine as well as the second scan immediately preceding pipetting of the sample. This eliminates the possibility of the sample being incorrectly identified.



**Refill:** The sample is placed in one of the rotor's available positions. The rotor completely scans and compares all samples at the earliest opportunity - new data is also requested by the host computer. The new samples are integrated into the working routine.

**Emergencies:** The emergency menu is selected on the PC, and the sample is placed in an available rotor position. After scanning and data exchange with the host computer, the sample is automatically registered as an emergency and processed as soon as possible.

... like a *Rack* - for application flexibility

... like a *Rotor* - uncompromisingly positive



## Technical description

Walk-away system  
Throughput: 180 PT's, 150 APTT's,  
45 samples á 4 parameters  
Patient or test oriented procedure  
Automatic pre-dilution  
Automatic test repetition  
Automatic calibration curve production  
4 measuring channels  
Filters for 405 nm and 546 nm  
Automatic level detection  
Derived Fibrinogen  
Cuvette register for 240 tests  
Sample trays for 62 collection tubes  
Reagent tray with 16 positions  
5 positions for quality controls  
Automatic reagent changeover  
Measuring system with process monitoring  
Bi-directional interface

Interface RS 232  
For continuous operation and emergencies  
Open system for almost all reagents  
Emergencies via immediate random access  
Immediate result display  
QC program  
Multitasking with PC  
Main menu for the entire routine  
Positive sample identification  
Takes over working list from host computer  
Uses collection tubes  
Samples and reagents: refillable at any time  
Cuvettes: refillable at any time  
Error monitoring during coagulation  
Error criteria printout  
Graphic display of the coagulation process  
Data bank for up to 10,000 patients  
Current sample status display

Technical Data:  
Dimensions:  
Length: 102 cm; Width: 72 cm; Height: 39 cm  
Weight: 61 kg  
Mains voltage: 120/230 V  $\pm$  10%  
Frequency range: 50-60 Hz  
Power consumption: 400 VA

System:  
Thrombolyzer RackRotor  
System accessories  
Pentium PC  
Colour monitor  
Printer

Behnk Elektronik  
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