



SAGIAN™ Specification for Integration of Variomag Thermoshake on the Biomek FX

Overview

The **Variomag Thermoshake** is a microplate temperature controlled plate shaker sold by **Inheco**. The Variomag Thermoshake will be integrated by Beckman Coulter, Inc. onto a Biomek FX, using SILAS™ integration technology.

In order to ensure that customer expectations are fully satisfied, the following information has been compiled to summarize the functionality of the device. Upon reviewing this information the customer is asked to sign and date this document and return it to their Beckman Coulter Project Manager.



The warranty for this Custom Integration is one year from shipment. This includes BCI supplied hardware and software. This warranty applies for the integration to the version of 3rd Party hardware, firmware, and software originally integrated. Any changes to the 3rd Party component that cause the integration to no longer function properly are not covered under this warranty.

The warranty applies to the system and system software versions (including SAMI®) on which the original integration was installed. Although our goal is for all SILAS modules to be forward compatible, this can not be guaranteed for custom integrations. Any upgrades to the system (including SAMI, Biomek FX), which cause the integration to no longer function properly, are not covered under the warranty for this integration.

Functional Description

The Variomag Thermoshake is a temperature controlled microplate shaker. The device shakes from 100 to 2,000 rpm, with amplitude of 2 mm, best for 96, 384 and even 1536 microplates. The device is also equipped with an automatic startup routine, which avoids spillage of samples.

The Thermoshake can to be located in any of the standard 1x1 ALP positions on the Biomek FX.

Device Control

The Variomag Thermoshake can be operated in two modes. The first mode of operation is through the Variomag Thermoshake controller that is supplied with the device. The second mode and primary mode of operation is through the SILAS/SAMI module for the Variomag Thermoshake. The second mode is outlined below:

In the Biomek FX System the device is controlled through the Variomag Thermoshake SILAS module*. In this implementation an operator will have options to *Initialize* the device to establish a communications link, *Set Temperature* to control the temperature of the Variomag Thermoshake, and to *Shake* a plate for a predetermined amount of time. Both the *Set Temperature* and the *Shake* options can be used simultaneously for specific method functionality. The user will have the ability to set the temperature at the beginning of the method, and leave it there throughout the method, while plates are brought to the device for shaking.

Any internal errors in the function of the Variomag Thermoshake are communicated serially back to the host computer and displayed by an error notification box. The operator will then be given options to correct the error and retry the command, abort the run, or ignore the error and continue. All device errors are logged according to Biomek FX standards.

*Note that SILAS software must be present on the Windows NT® 4.0 based PC that will be used to run the instrument. SILAS and a Windows NT 4.0 based PC may be purchased as separate items, if needed.

Data Collection

The Variomag Thermoshake integration provides no data collection.

Additional Specifications

Microplates	Most 96-well through 1536-well microplates that are in accordance with the SBS Recommended Microplate Specifications and Assay Workstation Specifications can be used.
Supported Model Number	Variomag Thermoshake
Communications	1 (one) RS-232 Serial Port per Thermoshake device
Temperature Range*	0~50°C
Shaking Speed	100~2000 rpm
Shaking Amplitude	2mm
Power Requirements*	Voltage 115/230 VAC, 50~60 Hz
Output Voltage*	12 VDC

*Note that all performance and power specifications are those provided by the instrument manufacturer. Any discrepancies that arise with these specifications will be handled in accordance with the instrument manufacturer's warranty or replacement policy.

Integration Components

The integration package for the Variomag Thermoshake includes the following items:

- 1 Variomag Thermoshake with 96-well PCR Adapter
 - 1 Variomag Thermoshake with flat Adapter
 - SILAS Modules
 - Communication Cables
 - User's Manual
 - Installation Guide
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