

***ThermoBrite*[™] Slide Hybridization/ Denaturation System**

Operator's Manual

Operator's Manual
StatSpin[®] ThermoBrite
Model Number S500

FOR *IN VITRO* DIAGNOSTIC USE

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How to use this manual

This manual along with information contained on product labels should provide you with all the information you need to operate and maintain the ThermoBrite.

Notes appear in italics to highlight information. When the information requires special attention, a caution symbol appears next to the italicized text.



Please pay close attention to the instructions that accompany the notes and symbols as well as the standard laboratory practices outlined by your facility and local regulatory agencies. The table below lists all the CAUTIONS / WARNINGS for the ThermoBrite.

	WARNING – Plug the instrument into a properly grounded outlet supplying the voltage and frequency indicated on the serial number label.
	CAUTION – Unplug the ThermoBrite from the wall outlet before performing maintenance.
	WARNING – Do not expose StatSpin ThermoBrite to strong or concentrated acids, bases, esters, aromatic or halogenated hydrocarbons, ketones or strong oxidizing agents.
	CAUTION - Universal Precautions should be followed on all specimens, regardless of whether a specimen is known to contain an infectious agent. (See references)
	CAUTION – Risk of electric shock: The instrument contains no user serviceable parts. Removal of housing will expose potentially lethal voltage. Refer service to qualified service personnel.
	CAUTION – Hot Surface: The interior surface of the instrument may be HOT, use caution to avoid potential burn.
	CAUTION - Do not use paper towels or any other filter card in card positions. This may change the humidity and may decrease the intensity of the probe, potentially causing erroneous results.

Please use the system as intended. Improper use of the StatSpin ThermoBrite may cause damage to the system, inaccurate results, or potentially nullify warranties.

Unpacking and Installation

Inspect Packaging

The ThermoBrite and its accessories are delivered in one carton. If the instrument or accessories have suffered any damage in transport, please inform your carrier immediately.

NOTE: Save shipping carton and components to simplify return should service be required.

Verify Contents

The package contains:

One StatSpin ThermoBrite (Model No. S500)

One Line Cord

One Operator's Manual

One Package Humidity Control Cards (Reorder # **HC10**- QTY 10)

Install System

1. Place the StatSpin ThermoBrite on a level surface suitable for laboratory instrumentation.
 2. ThermoBrite has an intake fan located on bottom, assure no obstruction exist on intake.
 3. Ensure the ThermoBrite is placed at least 12" (30 cm) from the wall to allow for proper cooling.
 4. Position the StatSpin ThermoBrite away from direct sunlight and sources of heat or cold.
 5. Verify voltage requirements located on serial number label on the rear of instrument.
-

Connect Power

Plug the instrument into a grounded outlet supplying the voltage and frequency indicated on the serial number label.

Main power switch is located on the rear of the instrument, next to the line cord power entry module.

Section 2

System Overview















Principle and Intended Use

IVD





For in vitro diagnostic use for denaturation/hybridization for slide-based FISH procedures.

The StatSpin ThermoBrite is a microprocessor controlled small bench top hot plate with lid. The ThermoBrite allows storage of 40 programs, three operating modes, Fixed Temperature, Hybridization Only or Denaturation and Hybridization, capacity for twelve slides and a maximum temperature of 99°C. The instrument is UL / cUL listed and CE marked.

Symbols and Definitions

	Up	Move cursor up; Enter character A-Z for program name
	Down	Move cursor down; Enter character A-Z for program name
	Enter	Accept or Enter
	Backspace	Move cursor back or previous screen
	Stop	End a program in process
	0-9	Enter numeric values for time and temperature or for program name
	Product/Reference Number	Indicates the StatSpin product/catalog number
	Caution	Statement of caution/warning, read instruction carefully
	Temperature limitation	Indicates storage requirements range
	EC Representative	European Community Authorized Representative
	For <i>in vitro</i> diagnostic use	Clarifies for use as <i>in vitro</i> diagnostic use only
	Non-sterile	Indicates non-sterile product
	Serial Number	Indicates instrument serial number code
	Consult Instructions	Consult instruction manual for further explanation

Symbols and Definitions (cont.)

	Manufactured By	Indicates Manufacturer of the Device
	Electric Shock	Indicates a potential risk of electrical shock.
	Biohazard	Universal Precautions should be followed at all times
	Hot Surface	Use caution to avoid burn

Display Abbreviations

Display Abbreviations	
PGM	Program
Denat & Hyb	Denaturation & Hybridization
Denat Temp	Denaturation Temperature
Denat Time	Denaturation Time
Hyb Temp	Hybridization Temperature
Hyb Time	Hybridization Time
Hyb Only	Hybridization Only
Fixed Temp/Fxd	Fixed Temperature

Audible Indicators - NORMAL

Single beep:	All legal keystrokes.
Two quick beeps:	Upon accepting a field and cursor has moved to next field.
Five beeps:	Completion of process.

Audible Indicators – ERROR

Three short beeps:	Entering of illegal or non-functioning keystrokes.
Low tone beep:	Attempt to enter a value out of acceptable range.
Continuous beep:	Instrument is not performing within acceptable range or program condition. Turn off main power and restart. If beep continues, discontinue use and contact service.

Error Messages

Instrument cannot achieve a set temperature by heating within 10 minutes an error message appears to inform user to turn unit off and call service. A constant beep will sound.

```
SYSTEM ERROR!  
TURN UNIT OFF!  
CALL SERVICE
```

If the instrument cannot measure the temperature, the software will automatically turn off the heating. An error message will appear to inform the user to turn off the unit and call service. A constant beep will sound.

Instrument cannot achieve a set temperature by heating within 10 minutes an error message appears to inform user to turn unit off and call service. A constant beep will sound.

High ambient temperature condition:

The instrument will attempt to achieve process set temperatures. However, if the cooling fan cannot achieve the set temperature within 10 minutes, an error message will appear to inform the user that the ambient temperature is high. A constant beep will sound. The counter will continue to count. The present temperature will be displayed. Hitting the "Stop" button will allow the user to abort the process. A new screen will be displayed asking user if they are sure they want to abort.

For Hyb only:

```
Please Wait  
Cooling to Hyb --°C  
Present Temp: --°C ("Ambient Temp High!"  
flashes alternately on this line)
```

For Fixed Temp:

```
Please Wait  
Cooling to Fxd --°C  
Present Temp: --°C ("Ambient Temp High!"  
flashes alternately on this line)
```

Abort Screen Message

```
ABORTING!!  
Are You Sure?  
No  
Yes - Main Menu
```

If the ambient temperature changes during a process and causes the instrument process set temperature to change beyond the +/- 1°C specification for more than 2 minutes, a message will appear to inform the user that the ambient temperature is high. A constant beep will sound. The counter will continue to count. The present temperature will be displayed. Hitting the "Stop" button will allow user to abort the process. A new screen will be displayed asking user if they are sure they want to abort.

Hyb only:

```
PGM -- namexxxxxx
Hyb in Process ("Ambient Temp High!"
flashes alternately on this line)
Hyb --°C --:--
Present Temp: --°C
```

Fixed Temp:

```
PGM -- namexxxxxx
Fixed Temp --°C ("Ambient Temp High!"
flashes alternately on this line)
Reset Timer 00:00:00
End PGM/Main Menu
```

Abort Screen Message

```
ABORTING!!
Are You Sure?
No
Yes - Main Menu
```

If the ambient temperature changes after a process is completed, but before the user removes the slides and causes the instrument process set temperature to change beyond the +/- 1°C specification for more than 2 minutes a message will appear to inform the user that the ambient temperature is high. A constant beep will sound. The counter will continue to count. The present temperature will be displayed. Hitting the "Stop" button will allow user to abort the process. A new screen will be displayed asking user if they are sure they want to abort.

Hyb only:

```
PGM -- namexxxxxx
PROCESS COMPLETE ("Ambient Temp High!"
flashes alternately on this line)
Total Hyb Time --:--
End PGM/Main Menu
```

Abort Screen Message

```
ABORTING!!
Are You Sure?
No
Yes - Main Menu
```

Note: If 40 programs have been created or edited the software will blank out the "Create a PGM" mode on the main menu screen. This will only allow users to edit existing programs.

```
Run a PGM
Edit a PGM

Present Temp: --°C
```

Operating Instructions

Opening and Closing the Lid



The platen may be hot. Use caution and check temperature on display before handling slides. Improper precaution can cause a burn.



Depressions located on either side of the lid allow user to simply lift lid into position. The lid should offer some resistance when opening. To close, reverse process. Assure front is completely down and no obstructions prevent gasket seal from sealing on housing base.

Turning Unit On

The StatSpin ThermoBrite main power switch is located on the rear panel. Assure unit is plugged into a grounded outlet. Move switch to on position. Instrument will beep to announce power has been turned on, fan will start and the **Main Menu** will come up onto the display.

Indicators on power switch: I = ON O=OFF

```
Run a PGM
Edit a PGM
Create a PGM
Present Temp: 25°C
```

Run a Denaturation and Hybridization Program

Turn unit on and wait for the Main Menu screen. Cursor highlights “Run a PGM” line.

Press “Enter” button to accept.

With the arrow keys scroll through program numbers 1 to 40 / program names. *If no programs have been saved advance to programming section of this handbook.* To accept, press “Enter” button.

Display will confirm PGM number/name and Denat & Hyb times and temperatures. Cursor highlights “Run PGM” line. Press “Enter” button to accept.

Hyb Only

```
PGM 02 EBV
Hyb: 55°C 01:30
Run PGM
Main Menu
```

Denat & Hyb

```
PGM 01 Her2
82°C :05; 45°C 20:00
Run PGM
Main Menu
```

Fxd Temp

```
PGM 03 Appl
Fixed: 65°C
Run PGM
Main Menu
```

The display prompts to “Add Slides and Close Lid”. Before adding slides insert two Humidity Cards into the inside slide lid. After strip insertion saturate with distilled water or equivalent (see **Humidity Control Cards**).

Cursor highlights “Start” line. Press “Enter” button to run the program.

```
PGM 02 EBV
Add Slides - Close Lid
Start
Main Menu
```

```
PGM 01 Her2
Add Slides - Close Lid
Start
Main Menu
```

```
PGM 03 Appl
Add Slides - Close Lid
Start
Main Menu
```

(To return to the Main Menu, move the cursor to highlight "Main Menu" line and press "Enter" button).

Denaturation and Hybridization:

Display indicates present temperature of the slides. Once temperature reaches denaturation set point, ThermoBrite will beep twice and denaturation time will count down from the set time.

```
PGM 01  Her2
Denat in Process
Denat: 82°C  02:28
Present Temp: 82°C
```

The ThermoBrite will automatically cool to hybridization set temperature once denaturation is completed.

```
Please Wait

Cooling to Hyb 45°C
Present Temp: 58°C
```

Hybridization time will count down from the set time once temperature reaches hybridization set point.

Upon program completion ThermoBrite will beep five times and the display will show "PROCESS COMPLETE". Hybridization temperature will be maintained until "End PGM/Main Menu" is accepted by pressing "Enter" button. Before pressing "Enter" button, remove slides for further processing. If "End PGM/Main Menu" is not accepted within the first minute of program completion, hybridization time will start counting the total time at hybridization temperature.

```
PGM 01  Her2
PROCESS COMPLETE
Total Hyb Time 21:05
End PGM/Main Menu
```

Hybridization Only:

Upon program completion ThermoBrite will beep five times and the display will show "PROCESS COMPLETE". Hybridization temperature will be maintained until "End PGM/Main Menu" is accepted by pressing "Enter" button. Before pressing "Enter" button, remove slides for further processing. If "End PGM/Main Menu" is not accepted within the first minute of program completion, hybridization time will start counting the total time at hybridization temperature.

```
PGM 02  EBV
PROCESS COMPLETE
Total Hyb Time 02:15
End PGM/Main Menu
```

Fixed Temperature:

Display indicates present temperature of slides.

```
Please Wait

Heating to Fxd: 65°C
Present Temp: 30°C
```

Turn unit on and wait for the Main Menu screen. Cursor highlights “Run a PGM” line.

Timer counts elapsed time. (Pressing “Enter” button will reset timer to zero).

```
PGM 03   Appl
Fixed Temp: 65°C
Reset Timer 01:18:10
End PGM/Main Menu
```

Use Arrow keys to move to “End PGM/Main Menu” line and press “Enter” button to accept.

Note: If ambient temperature is programmed the fan will continually cycle until the program is aborted.

Note: The temperature can be increased or decreased as the unit is running by using the up/down arrows from the “Fixed Temp” line.

Abort Program in Process

To end a program in process press “STOP” button, three beeps will sound. Use arrows to move cursor to “Yes” line and press “Enter” button to accept. (Program will continue to run until “Yes” or “No” has been accepted)

Note: The ThermoBrite prompts, “Are You Sure?” This measure is to prevent accidental disruption of a program in process.

```
ABORTING!!
Are You Sure?
No
Yes - Main Menu
```

Fan will turn on. If the slide temperature is above 37°C, the fan will cool to 37°C.

Slide Installation

Temperature uniformity across the heater is within 1°C of set point across all slide positions. ThermoBrite allows up to a maximum of 12 slides to be installed. When prompted simply lift lid and load slides onto plate. Frosted edge of the slide should hang over edge. Move slide toward middle of plate butting edge into marked positions in slide locator.

Be sure slides rest into slide locator before closing lid. **For optimum temperature uniformity, use blank slides to fill all unused spaces before closing lid.** This will allow maximum performance of the ThermoBrite.

Humidity Cards

Located in the lid these cards act to prevent evaporation of sample from prepared slides. For best results apply 13 mL of water to each card for the first operation and for each subsequent operation re-saturate with 3-10 mL to maintain moisture. Cards should be replaced every week as they will deteriorate over time and with use. In between runs the lid should remain shut to keep the strips moist, however if the ThermoBrite remains unused for longer than 1 week remove strips, discard and open lid to dry unit out. In the event the cards completely dry out they should be replaced and discarded. Replacement cards can be purchased for use with the ThermoBrite.

To replace cards, lift lid and remove. Slide card into slot positions, allow tabs in lid to support cards.



CAUTION -Do not use paper towels or any other filter card in card positions. This may change the humidity and may decrease the intensity of the probe, potentially causing erroneous results.

Predefined Limits

Program Mode	Temperature Range	Timer Limits
Denature	50°C to 99°C	0-30 minutes
Hybridization	Room temp: 30°C to 70°C	0-99 hours
Fixed Temp	Room temp: 30°C to 99°C	0-99 hours

Section 4

Programming

Overview

StatSpin ThermoBrite is capable of storing 40 different programs. Each program can be one of three program types:

- Denaturation and Hybridization (Denat & Hyb),
- Hybridization Only (Hyb Only) or
- Fixed Temperature (Fixed Temp).

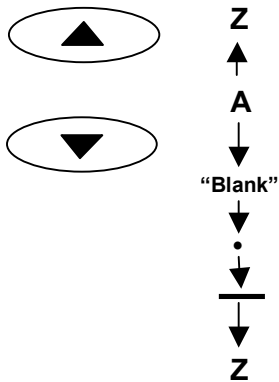
```
Select PGM Type
Denat & Hyb
Hyb Only
Fixed Temp
```

Programming is simple. Select program type, and follow screen prompts to enter run times and set temperatures. ThermoBrite maintains set temperatures for duration of the processing.

Note: At end of program the display will show "Process Complete". Temperature will be maintained and timer will continue to run until End PGM/Main Menu is accepted by pressing "Enter" button.

Note: If all 40 program numbers have been used "Create a PGM" line in the Main Menu will no longer appear. An existing program must be edited, see "Editing a Program".

Character Selection



- ThermoBrite allows creating a program name. Cursor highlights the first name character position.
- Use the arrow keys to move through character set and press "Enter" button to accept the characters.
- All 10 character positions must be used and blank spaces are acceptable. Press "Enter" button to accept blank characters.
- For numeric characters use keypad 0-9.

Creating a Denaturation and Hybridization Program (Denat & Hyb)

From the Main Screen, use the arrow keys to move cursor to "Create a PGM" and press "Enter" button to accept.

Cursor highlights "Denat & Hyb" line; press "Enter" button to accept.

ThermoBrite will advance to the next available program number.

PGM 01	name		
Enter:	Temp	Time	
Denat:	°C	:00	
Hyb:	°C	00:00	

(Reference **Character Selection** for additional information in regards to working with the keypad.)

Cursor will advance to “**Denat Temp**”. With numeric keypad enter a two-digit temperature value in degrees Celsius (50-99°C).

Cursor advances to “**Denat Time**”. With numeric keypad enter a two-digit time value in minutes (0 – 30)

Cursor advances to “**Hyb Temp**”. With numeric keypad enter a two-digit temperature value in degrees Celsius (30-70°C). For room temperature hybridization enter the two-digit value 00.

Cursor advances to “**Hyb Time**”. With numeric keypad enter a two-digit time value in hours (0 – 99) followed by a two-digit value in minutes (0-59)

Display will now show entered program values. Cursor highlights “**Enter to Accept**” line.

Denat:	82°C	:05	
Hyb:	45°C	20:00	
ENTER to Accept			
STOP to Abort			

Press “**Enter**” button to accept the program values; or press “**Backspace**” button to return to previous screen to modify program values; or press the “**Stop**” button to abort.

Creating a Hybridization Only Program (Hyb Only)

From the Main Screen, use the arrow keys to move cursor to “**Create a PGM**” and press “**Enter**” button to accept.

ThermoBrite will advance to the next available program number.

PGM 02	name		
Enter:	Temp	Time	
Hyb:	°C	00:00	

(Reference **Character Selection** for additional information in regards to working with the keypad.)

Cursor advances to “**Hyb Temp**”. With numeric keypad enter a two-digit temperature value in degrees Celsius (30-70°C). The instrument allows a temperature of 30°C or ambient temp + 5°C (whichever is higher) for the lowest hybridization temperature. For room temperature hybridization enter the two-digit value 00.

Cursor advances to “**Hyb Time**”. With numeric keypad enter a two-digit time value in hours (0 – 99) followed by a two-digit value in minutes (0-59)

Display will now show entered program values. Cursor highlights “**Enter to Accept**” line.

PGM 02	EBV		
Hyb:	55°C	01:30	
ENTER to Accept			
STOP to Abort			

Press **“Enter”** button to accept the program values; or press **“Backspace”** button to return to previous screen to modify program values; or press **“Stop”** button to abort.

Creating a Fixed Temperature Program (Fixed Temp)

From the Main Screen, use the arrow keys to move cursor to **“Create a PGM”** and press **“Enter”** button to accept.

With arrow keys move cursor to **“Fixed Temp”** line and press **“Enter”** button to accept.

ThermoBrite will advance to the next available program number.

```
PGM 03   name
Enter Temp
Fixed:   °C
```

(Reference **Character Selection** for additional information in regards to working with the keypad.)

Cursor advances to **“Fixed Temp”**. With numeric keypad enter a two-digit temperature value in degrees Celsius (30-99°C). The instrument allows a temperature of 30°C or ambient temp + 5°C (whichever is higher) for the lowest fixed temperature. For room temperature fixed enter the two-digit value 00.

Display will now show entered program values. Cursor highlights **“Enter to Accept”** line.

```
PGM 03   Appl
Fixed: 65°C
ENTER to Accept
STOP to Abort
```

Press **“Enter”** button to accept the program values; or press **“Backspace”** button to return to previous screen to modify program values; or press **“Stop”** button to abort.

Editing a Program

From the Main Screen, use the arrow keys to move cursor to **“Edit a PGM”** and press **“Enter”** button to accept.

With the arrow keys scroll through the program numbers 1 to 40 / program names. *If no programs have been saved advance to programming section of this manual.* To accept, press **“Enter”** button.

```
PGM 04   HPV
92°C :05; 37°C 16:00
Denat & Hyb
Main Menu
```

Cursor highlights existing program type: **“Denat & Hyb”**, **“Hyb only”** or **“Fixed Temp”**. Press **“Enter”** button to accept existing program type or use arrow keys to move cursor to a different program type. Press **“Enter”** button to accept.

Use numeric keypad to enter new values for Temperatures and/or Time. Procedure and limits are the same as those for creating a program.

Note: ThermoBrite allows 40 programs to be entered and stored. Once all program numbers have been used an existing program must be edited.

Section 5

Maintenance

Overview

StatSpin recommends that instrument operators perform periodic inspections and preventative maintenance on all StatSpin instruments. Contact StatSpin's customer service department or distributor if, at any time, the instrument is not functioning properly.



CAUTION - *Unplug the ThermoBrite from the wall outlet before performing maintenance.*



WARNING - *Do not expose ThermoBrite to strong or concentrated acids, bases, esters, aromatic or halogenated hydrocarbons, ketones or strong oxidizing agents.*

Cleaning

The ThermoBrite is supplied with a removable slide-locating bar. **To remove, pull locator back releasing the top from its holder (the locator is spring loaded to hold it in position). Lift slide-locator up and remove from spring holder at bottom. Set on bench top.** Clean the outside surfaces and switch overlay panel with a water-dampened cloth and mild detergent. Clean the inner surface with a mild detergent, and if necessary, a disinfectant, wiping surfaces with a **dampened** cloth using 70% alcohol or 10% bleach solution. DO NOT use harsh abrasives (i.e. Scotch Brite), this will scratch the heating surface.

The fan filter, located on the underside of the ThermoBrite should be rinsed with water and air-dried as needed.

Service

There are no user-serviceable parts. Refer all service to qualified service personnel. Reference the StatSpin Warranty for further instruction. Be sure to complete and return the warranty card as directed.

Decontamination before returning for service

Any instrument or accessory containing accumulated blood and/or other biological or chemical deposits must be cleaned prior to shipment to the manufacturer/dealer for service. This decontamination is required by Federal Law (Title 48 and 49 of the Federal Regulations) and in accordance with the Environmental Protection Agency's Regulations for Biohazard Waste Management. StatSpin personnel cannot perform this decontamination.

Troubleshooting

Unit does not turn on or No power.	Check both cord ends are plugged in. Check Fuses located on rear panel next to power switch. Replace with same type and value.
Poor results on slides.	Verify selected protocol against probe manufacturer's recommendation. Ensure Humidity Control Strips are in place and moist. Ensure cover slip sealant was applied. Ensure plate is heating. Ensure lid is properly closed. Ensure air intake and outlet are not obstructed.
Cannot read Display	Allow unit to reach room temperature before operating. Contact StatSpin Customer Service.
Temperature on display does not match surface temperature of slides	Clean slide heating plate, replace with clean slides.
Cannot set temp above 70° C	Verify program mode, you cannot exceed preset limits. Verify limits under programming section.
Can't find "Create a Program"	More than 40 programs have been stored. You can only edit a program.
Keypad not functioning properly.	Contact StatSpin Customer Service.
High Temperature Error	Ensure that there is no obstruction of the fan on the underside of the unit. Ensure the unit is positioned a minimum of 12" (30 cm) from the wall.

Appendix

Appendix A - Specifications

Product No.	TS01	TS02
Model No.	S500-12	S500-24
Capacity	Up to 12 slides	
Processing Time	0-100 hours	
Number of Programs	40	
Ramp Time	37 – 95°C in less than 3 minutes	
Cooling Time	95 - 45°C in less than 6 minutes	
Electrical	120 VAC @ 3.0 A	240 VAC @ 1.6A
Dimensions	Depth 45.1 cm	
	Width 22.8 cm	
	Height 14.6 cm	
	Weight 8.5 kg	
Environmental	Indoor use	
	Altitude up to 2000m	
	Temperature 15°C to 40°C	
	Maximum relative humidity 80% for temperatures up to 15°C decreasing linearly to 50% relative humidity at 40°C	
	Main supply voltage fluctuations not to exceed +/- 10% of the nominal voltage	
	Transient over-voltages according to installation category II	
	Pollution degree 2	

References

1. NCCLS. "Protection of Laboratory Workers from Occupationally Acquired Infections; Approved Guideline-Second Edition." NCCLS document M29-A2 [ISBN 1-56238-453-8]. NCCLS, 940 West Valley Rd, Suite 1400, Wayne, Pennsylvania 19087-1898 USA, 2001.
2. CDC. Recommendations for prevention of HIV transmission in health care settings. MMWR (Suppl. No. 2S):2S-18S, 1987.
3. CDC. Updated: US Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV and HIV and Recommendations for Post Exposure Prophylaxis. Appendix A and B. MMWR 50 (RR-11): 1-42, June 29, 2001.
4. NCCLS. Fluorescence *in situ* Hybridization (FISH) Methods for Genetics; Approved Guideline. NCCLS document MM7-A (ISBN 1-56238-524-0). NCCLS, 940 West Valley Road, Suite 1400, Wayne, Pennsylvania 19087-1898 USA, 2004.

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StatSpin Warranty

StatSpin, Inc., a Subsidiary of IRIS International, Inc. warrants that the instruments shall be free from defects in material and/or workmanship, under normal use and service, for the period expiring twelve (12) months from the date of installation, provided the purchaser has completed and forwarded to StatSpin the Warranty Registration Card. StatSpin will, at its discretion repair or replace any unit covered under this warranty returned to StatSpin with shipping costs prepaid. Repaired or replaced instruments supplied under this warranty carry only the remaining portion of the original warranty and repairs shall not interrupt or prolong this warranty. For warranty terms and conditions outside the United States, contact your Authorized StatSpin Distributor.

No warranty extended by StatSpin shall apply to any instrument that has been damaged due to misuse, negligence, accident, or damage resulting from unauthorized repairs, alterations, or improper installation.

StatSpin makes no warranty other than the one set forth herein. This warranty is given expressly in lieu of all other warranties, expressed or implied. The purchaser agrees that there is no warranty of merchantability or of fitness for any intended purpose and that there are no other remedies or warranties, expressed or implied, which extend beyond the description on the face of the agreement. No agent or employee of StatSpin is authorized to extend any other warranty or assume for StatSpin any liability except as set forth above. This warranty is only applicable to the original purchaser.

Limitation of Liability

StatSpin shall not be liable for any loss of use, revenue or anticipated profits, or for any consequential or incidental damages resulting from the sale or use of the products. The purchaser shall be deemed liable for any and all claims, losses, or damages incurred by the use or misuse of the StatSpin instrument by the purchaser, its employees or others, following receipt of the instrument or other items.