BIOCARE
MEDICAL

IQ Kinetic Slide Stainer™ Manual

IQ1000, IQ2000 and IQ3000

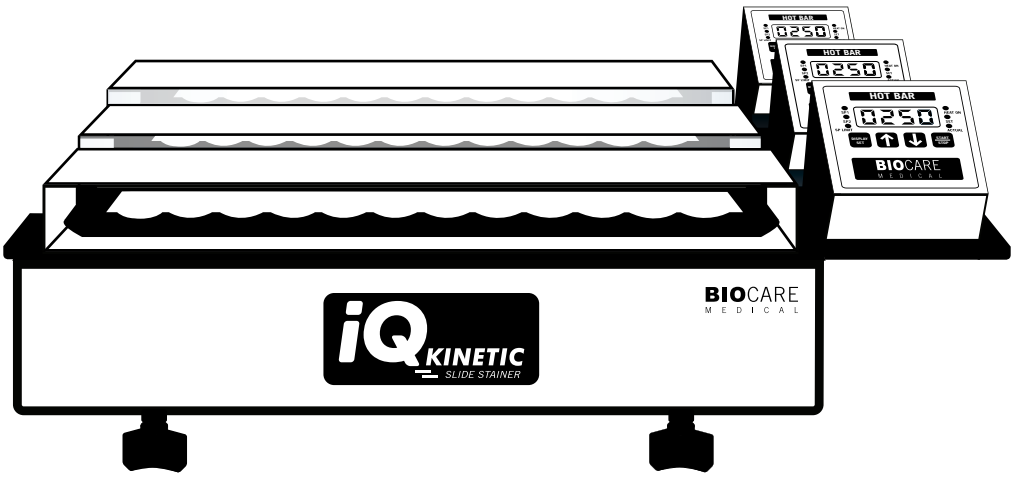

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Table of Contents

Overview 1
Specifications 2
Safety and Electrical Precautions 3
Description of Parts 4
Assembly 6
Hot Bar™ Operating Instructions 8
Slide Draining Instructions 10
Maintenance 11
Troubleshooting and Service 11

⚠ Not for use with flammable solvents or gases

Warranty

The IQ Kinetic Slide Stainer warranty is for one year from receipt of purchase and covers all parts and labor when performed solely by Biocare Medical. Warranty is invalidated if equipment is abused, damaged, or improperly maintained by customer. Warranty is not transferable to any other party should the equipment be resold or transferred by the customer to another party. To the extent permitted by law, Biocare Medical disclaims any liability for any incidental or consequential damages related to this equipment or for any warranty related services it performs.

Overview

The IQ (Immuno-Quality) Kinetic Slide Stainer offers the flexibility and reliable performance that both clinical and research investigators need for today's complex assays. This open system staining platform can be adapted for immunohistochemistry (IHC), *in situ* hybridization (ISH), immunofluorescence, or special stains.

The staining unit is compact and modular. The major components include: a tilt rack/waste receptacle, heating bars (Hot Bar) with digital controllers, slide holders and respective lids that create a humidity chamber.

The IQ Kinetic Stainer is designed to minimize manual slide handling once the staining procedure begins. Each slide is placed in a bracket on the slide rack and secured into place. Once the slides are loaded, reagents may be applied to each slide.

After each incubation step, the slide holder rack can be tilted at a 45° angle. The tilt-action rack eliminates individual slide handling since all slides are simultaneously rinsed in one single action. The excess reagents drain into the waste receptacle.

The digitally operated Hot Bar provides isothermic temperature and time control. It can be used for incubating antibodies, digestion techniques, denaturing probes, hybridizing probes and drying aqueous mounting media. The temperature control is accurate within ± 4 °C.

The IQ Kinetic Slide Stainer should be operated on a level surface, free from obstruction. The environmental operating temperature should be 15-30 °C.

The IQ Kinetic Slide Stainer provides two immediate advantages to laboratory users.

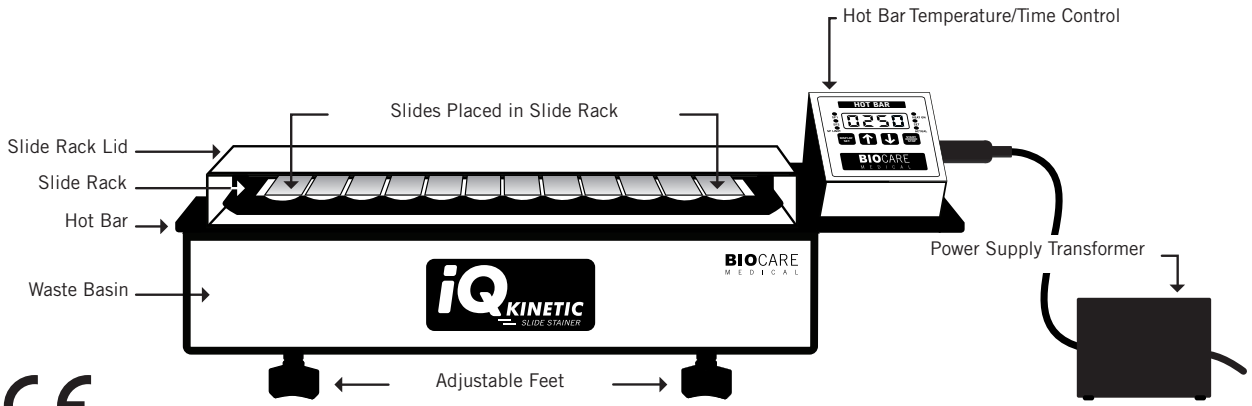
- Simultaneous staining of many slides allows users to complete staining faster than manual staining.
- Ability to monitor chromogenic reactions allows optimal endpoint determination.

The Orbital Shaker provides smooth agitation action for the reagents on the slides. The combination of heat and agitation allows tissues to be evenly and intensely stained while accelerating enzymatic reactions and increasing reagent specificity.

Warning: Do not set the shaker speed higher than 50 RPM. Higher speeds may cause the IQ Kinetic Slide Stainer to fall from the shaker causing spillage, damage to the stainer and the shaker, and possible injury.
Refer to Orbital Shaker manual for more information.

Specifications

- Two consecutively run set points
- Set Point (SP) alarm limit: 6 °C - 10 °C
- Operating Environment: 15 °C - 30 °C, at a maximum elevation of 2000 M
- Adjustable temperature range: room ambient or from 20 °C - 95 °C
- Temperature accuracy ± 4 °C
- Maximum timer setting: 99 hours and 00 minutes
- Input: 24 VAC, 3.33 A, 50 / 60 Hz
- Input Connector: 5-pin female DIN, use only with TIYS24-06 power supply
- Safety thermal fuse cutoff temperature: 140 °C - 170 °C
- Water resistance: do not submerge Hot Bar in fluids (clean with a damp cloth)



CE Listed

Dimensions

Waste Basin (IQ1000): 16.8" W x 6.2" D x 3.5" H
Waste Basin (IQ2000): 17.7" W x 18.3" D x 3.6" H
Waste Basin (IQ3000): 17.7" W x 18.3" D x 3.6" H
Hot Bar: 22.7" W x 4.9" D x 1.7" H
Power Supply: 3.8" W x 6.5" D x 2.9" H
8 foot input cord, 3 foot output cord

Slide Rack Microscope Slide Capacity

Slide Rack: Holds twelve 1" x 3" slides
1 Hot Bars per IQ1000
2 Hot Bars per IQ2000
3 Hot Bars per IQ3000

Power Supply Model TIYS24-06

Power rating: 100 VA
Output Connector: 5-pin male DIN
Power Supply Input: 100-200 / 200-240 VAC, 50 / 60 Hz
Power Supply Output: 24 VAC, 4.17A, 50 / 60 Hz

External Fuse For Power Supply

115 V, 1.6 A, 250 V time lag
5 x 20 mm, Littelfuse, type 218, or equivalent

240 V, 0.8 A, 250 V time lag
5 x 20 mm, Littelfuse, type 218, or equivalent

Safety and Electrical Precautions

Limitations: The IQ Kinetic Slide Stainer is not to be used for any other purpose than stated in this manual. Infectious sample use on the IQ Kinetic Slide Stainer is limited to tissues/specimens that are specified on Biocare's product data sheets.

Precautions: Handle control slides and test FFPE slides as if capable of transmitting infectious agents, and dispose with proper precautions. It is recommended that the specimens are handled using established good laboratory working practices.

Failure to adhere to these guidelines stated in this manual may result in damage to the instrument or injury.

- Basic safety precautions should always be followed when using electrical equipment.
- The IQ Kinetic Slide Stainer is to be operated by trained personnel only.
- Do not splash liquid on the temperature control box or power supply.
- Do not touch the power supply output cord connector pins while power supply is connected to power outlet.
- Do not immerse cord, plug or Hot Bar in water.
- Do not touch the surface of the Hot Bar when in use.
- Unplug the instrument when not in use and before cleaning.
- Do not operate the Hot Bar when the power cord or plug is damaged.
- Do not operate the Hot Bar when it is malfunctioning.
- Do not leave paper or flammable elements on top of the Hot Bar at any time.
- Keep power cord and power supply away from heated surfaces.
- Do not leave the power cord draped over the edge of a table or counter top.
- To account for Orbital Shaker movement, leave a minimum of five inches clearance around the IQ stainer.

Description of Parts

Upon arrival, inspect the contents of the package and notify Biocare Medical of any damage immediately.

Identify the following parts prior to assembly:

- Waste basin with tilt adjustment grooves (Figure 1a. IQ2000 and IQ3000; 1b. IQ1000).
- Four waste basin feet.
- Complete Hot Bar with slide rack and lid (Figures 2-4, Cat. No. IQ105).
- Adjustable Power Supply (100-120 V or 200-240 V) (Figures 5a-5b).
- Leveling Bubble (Figure 6).

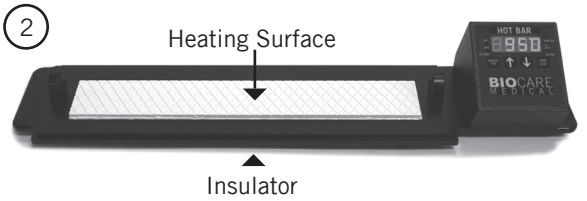
1a

IQ2000 and IQ3000 Waste Basin
Cat. No. IQ025

1b

IQ1000 Waste Basin
Cat. No. IQ703

2



Hot Bar with temperature/time control

3

Slide rack for 1" x 3" slides
Cat. No. IQ023

Description of Parts (continued)

4

Slide rack lid
Cat. No. IQ024

5a

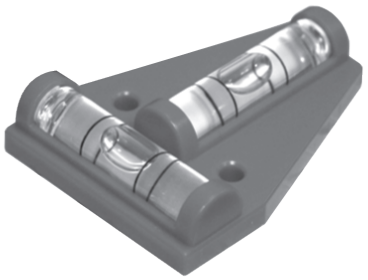
Power supply transformer
Cat. No. IQ026

5b

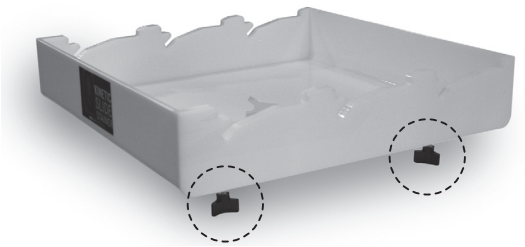
Choose 115 VAC for facilities with 100-120 VAC or 230 VAC for facilities with 200-240 VAC. voltage selection switch is underneath the transformer.

6

Leveling Bubble
Cat. No. IQ052



Assembly



Waste Basin

1 Screw in the feet to the bottom of the waste basin.

Orbital Shaker

2a For IQ1000 place the waste basin on top of the Orbital Shaker (IQ1000 as shown).

2b For IQ2000 or IQ3000, first place and secure the stainless steel tray and the non-slip pad on top of the Orbital Shaker. Next, place the waste basin on top of the Orbital Shaker.

3 Place the slide rack, followed by the slide rack lid, on top of the Hot Bar.

Back

Front

Hot Bar sitting horizontally on the waste basin.

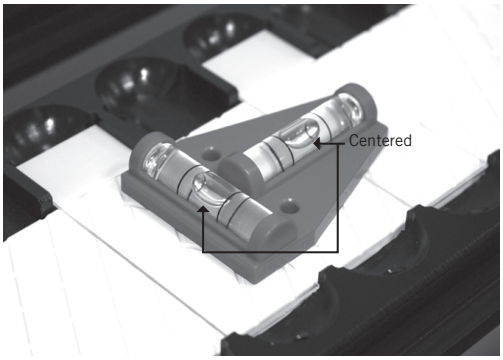
4 Place the assembled Hot Bar (Figure 3) on the horizontal waste basin holding slots.

5 Plug the power supply transformer into the Hot Bar.
Transformers should be placed near the waste basin in an orderly fashion so that there are no obstructions when connecting or disconnecting the power supply from the Hot Bar
(IQ3000 is shown).

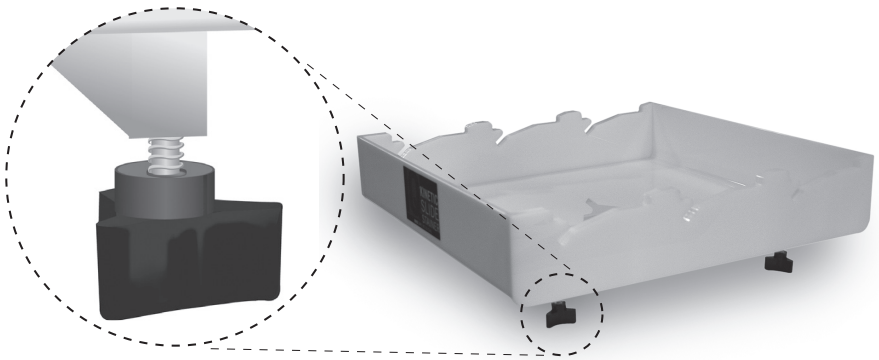
Assembly (continued)

Leveling Instructions

1. Place a microscope slide in one of the middle slots on the slide rack.
2. Place the leveling bubble horizontally on the slides.
3. Adjust the feet on the waste basin and level the slide rack until the leveling bubble is centered.



Leveling device placed on slides with leveling bubbles centered.



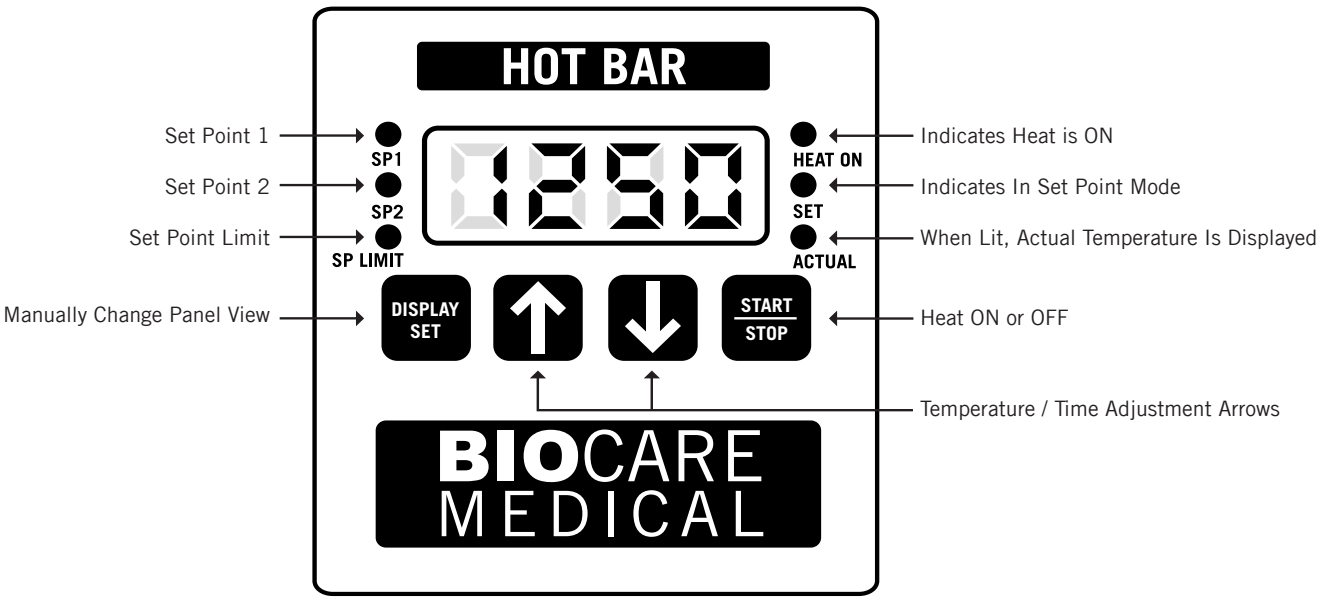
Assembly Confirmation

Upon completion of assembly, check for the following:

- Any gap between the heating surface and the insulator (See p. 4).
- Warped slide rack or broken slide rack lid.
- Erratic display on the temperature controller.

This equipment is to be serviced by qualified personnel only. If any damage has occurred during shipping, contact Biocare Medical Technical Support immediately.

Hot Bar Operating Instructions



Hot Bar Functions

SP1 - Set Point 1
Temperature (20 °C - 95 °C) and time to 99:00 (hours : minutes) for the first cycle. Timer will start once SP1 temperature is reached.

SP2 - Set Point 2
Temperature (20 °C - 95 °C) and time to 99:00 (hours : minutes) for the second cycle. Timer will start once SP2 temperature is reached.

SP LIMIT - Set Point Limit
System will alarm if SP1 temperature reaches more than SP1 temperature plus SP set point limit. Manufacturer's SP limit is 6 °C - 10 °C.

Hot Bar Operating Instructions (continued)

The combined SP1 (Set Point 1) and SP2 (Set Point 2) program was designed for preheating methods for the Hot Bar. If preheating the Hot Bar is not desired, the SP2 time should be set at 00:00 (hours : minutes).

- Plug the transformer into a power supply, preferably a multi-socket power strip. Insert the transformer supply-out cord 5-DIN male connector into the Hot Bar supply-in 5 DIN female connector. The connector is located on the right hand side of the Hot Bar.
- The SP1 light will illuminate and the SP1 temperature will be displayed. Use the up and down arrow buttons to adjust to the desired temperature.
- Press DISPLAY SET and the SP1 time function will be displayed. Use the up and down arrow buttons to adjust to the desired time.
- Press DISPLAY SET and the SP2 light will illuminate and the SP2 temperature will be displayed. Use the up and down arrow buttons to adjust to desired temperature.
- Press DISPLAY SET again. The SP2 time will be displayed. Use the up and down arrow buttons to set the desired time.
- Press DISPLAY SET and the SP Limit light will go on. The default SP Limit is set at 6 °C. If the temperature goes 6 °C above or below the SP1 desired temperature setting, a beeper warning will automatically engage (call Biocare Medical Technical Support).
- Press DISPLAY SET and the actual temperature light will illuminate. The display window will read the actual temperature of the Hot Bar.
- Press the START button and the program will begin.
- When the SP1 alarm sounds, the Hot Bar will have reached the desired temperature and/or timed sequence.
- Press the STOP button and the program will automatically go to SP2, and the programmed time and heat sequence will begin, if desired.
- When the SP2 alarm sounds off, press the STOP button. This will stop the beeper and return back to SP1.

If the user does not respond to SP1 alarm, the Hot Bar controller turns off the heat function and will not proceed to the SP2 settings.

Note: It takes approximately one minute for the temperature to rise to 25 °C; two minutes to 37 °C, ten minutes to reach 60 °C, and 15 minutes to 95 °C.

Slide Draining Instructions

The IQ Kinetic Slide Stainer waste basin has a tilt rack which will hold the Hot Bar at an angle in order to rinse and drain reagents from the slides. Pull the Hot Bar and slide rack up, then slide at an angle so that the Hot Bar and slide rack are either resting on the slanted edge (for a partial degree of tilt) or fully into the slot for a full 45° angle.

To position the slide rack above and away from the Hot Bar, pull both edges of the slide rack up, then towards the front, and hook the slide rack into the brackets protruding from the Hot Bar. The Hot Bar and slide rack can be put into the angled position when separated in this manner.

Be sure to drain the IQ Kinetic Slide Stainer waste basin after every use.

Tilt slide rack into the 45° angled waste basin slots to drain the slides.

Maintenance

To extend product lifetime, the IQ Kinetic Slide Stainer should be washed and decontaminated after every use. Before cleaning, unplug the Hot Bar from the power transformer. Wait approximately 30 to 60 minutes for the Hot Bar to cool before cleaning.

- For easy cleaning, disassemble all Hot Bar components.
- Use a damp cloth with nonabrasive cleaner to remove stains and crystallized buffer residue from the Hot Bar surface. Be careful not to allow any liquid into the Hot Bar temperature/time controller.
- Rinse the waste basin and slide rack with water, pat dry, then allow to air dry.
- Decontaminate with an antibacterial cleansing agent. Do not use alcohol.
- Verify temperature calibration every three months, using a non-glass external centigrade thermometer (such as infrared) or surface-mount thermometer.
- Set Hot Bar to 37 °C, compare with the display on the external thermometer. If there is a temperature difference of more than ± 4 °C, call Biocare Medical for Technical Support.

Troubleshooting and Service

If for any reason the IQ Kinetic Slide Stainer fails to function correctly, first check to see if the transformer is plugged in, and double check the 5-pin DIN connection. This equipment must be serviced only by qualified personnel. Please contact Biocare Medical Technical Support if any problems arise: 800-799-9499 Option 3.

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