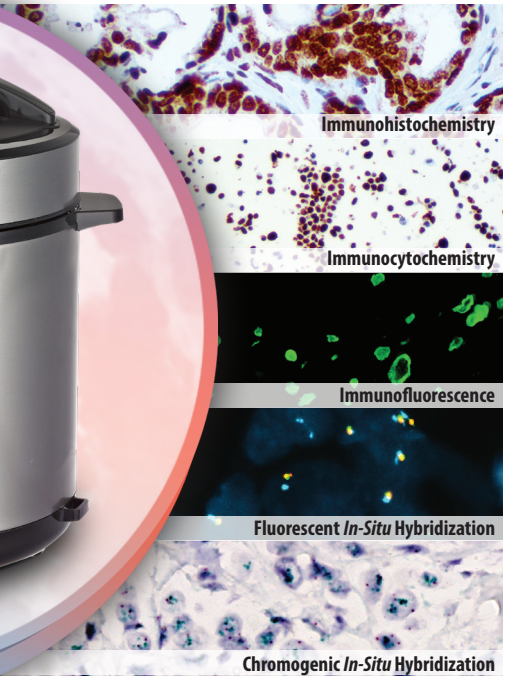


INSTRUCTION MANUAL

TINTORETRIEVER PRESSURE COOKER

For Epitope & Nucleic Acid Retrieval



DESCRIPTION & FEATURES:

Tissues fixed with formalin (or other additive fixatives) and embedded in paraffin, require an epitope or nucleic acid retrieval step prior to any immunochemical staining. The epitope or nucleic acid retrieval step breaks some of the methylene bridges that cross-link proteins or nucleic acids in formalin-fixed tissues and allows antibodies, probes or other immunochemicals to bind to unmasked epitopes or nucleic acids.

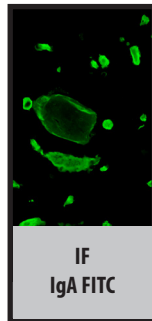
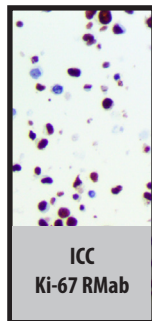
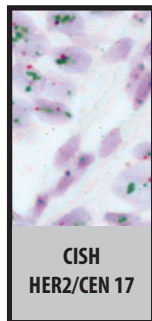
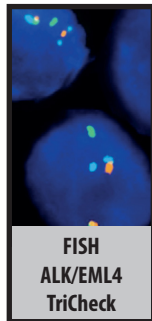
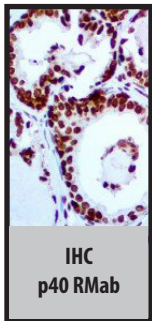
Heat-induced epitope retrieval (HIER) and nucleic acid retrieval steps are most often performed using a conventional pressure cooker, water baths, steamers or a microwave oven. The Bio SB TintoRetriever is a precision-controlled heat source capable of maintaining a constant and reliable temperature while minimizing the potential for evaporation of the working solution under HIER procedure conditions.

The TintoRetriever Pressure cooker is recommended for use in Immunohistochemistry (IHC), Immunocytochemistry (ICC), Immunofluorescence (IF) and In-Situ Hybridization (ISH) protocols, and can be easily integrated into a clinical or research laboratory.

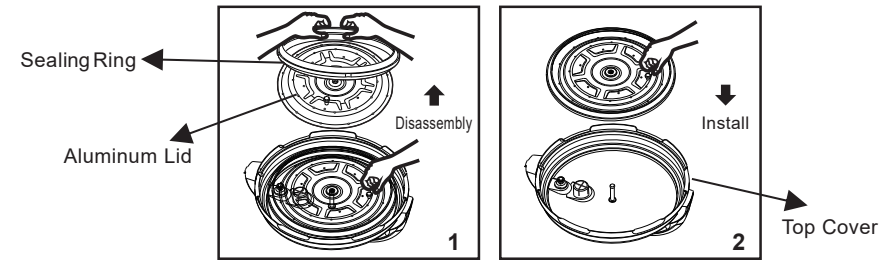


- Rapid Heat Retrieval
- Multiple Temperature Settings
- Use in IHC, ICC, IF and ISH Applications
- Low Solution Use
- Holds 96 Slides Per Run
- Cost Effective HIER Solution

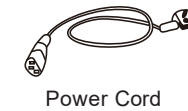
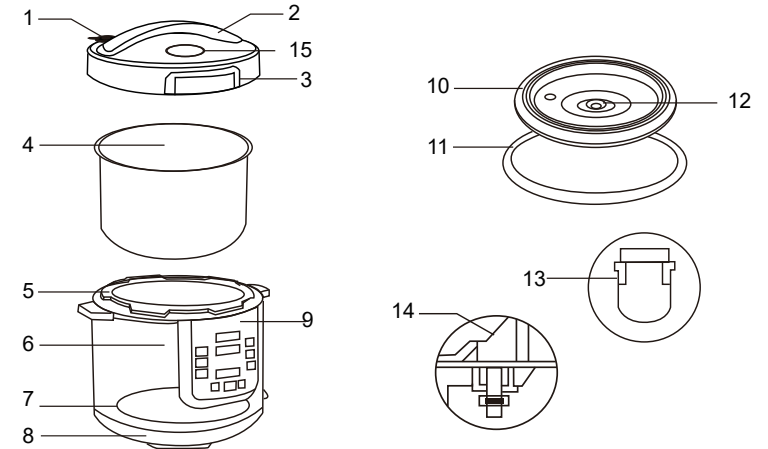
TintoRetriever Pressure Cooker Applications



TINTORETRIEVER COMPONENTS:



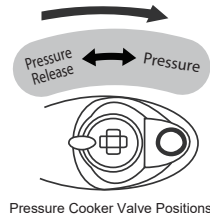
Sealing Ring Installation



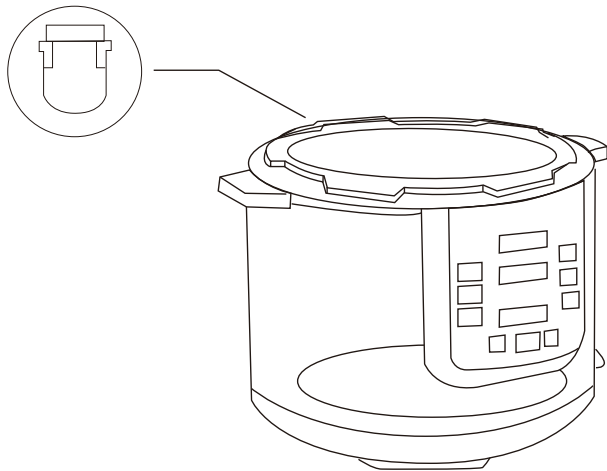
- | | | |
|----------------------------|------------------|---|
| 1. Release Valve | 6. Housing | 11. Sealing Ring Support |
| 2. Lid Handle | 7. Heating Plate | 12. Supporting Cap for the Sealing Ring |
| 3. Pressure Cooker Lid | 8. Unit Base | 13. Condensation Collector |
| 4. Pressure Cooker Chamber | 9. Control Panel | 14. Float Valve |
| 5. Upper Ring | 10. Sealing Ring | 15. Analog Thermometer |

INSTALLATION:

1. Open the pressure cooker lid by rotating it clockwise until it stops, and then lift the pressure cooker lid.
2. Before using, clean the pressure cooker chamber with a moist cloth or paper towel and wipe the heating plate to ensure that they are clean. Slightly rotate the pressure cooker chamber to make sure it fits the heating plate.
3. Close the lid.
 - Ensure that the sealing gasket on the pressure cooker is not damaged.
 - Place the lid on the pressure cooker, and turn the handle counter clockwise until the lid is closed.
4. Tear off the silver label attached to the pressure release valve to ensure that the valve is able to move freely.



5. As shown in the figure below, attach the condensation collector to the pressure cooker.



6. When turned on, the pressure cooker will make a beeping sound, the LCD display will light up and the pressure cooker will enter standby mode.

OPERATION PROCEDURES:

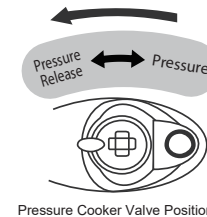
1. Add approximately 500 to 1000 mL of DI water to the pressure cooker chamber, so that the water slightly touches the staining dishes.
2. Position the Staining Dish Support inside the pressure cooker chamber.
3. Place slide racks with the slides in the Staining Dishes. Gently fill the Staining Dish with a working concentration of the HIER solution. We recommend Bio SB ImmunoDNA Retriever Citrate (BSB 0020 - BSB 0023) or the Bio SB ImmunoDNA Retriever EDTA (BSB 0030 - BSB 0033) or equivalents.
4. Position the Staining Dishes with slides into the Staining Dish Support.
5. Place and secure the lid onto the cooker's main body. Turn the lid counter clockwise to secure it into place.
6. Position the pressure limit valve to the "pressure" position.
7. Select and press the preset temperature button on the control panel.
8. Press the Time button on the control panel and use the plus (+) and minus (-) buttons to select the desired time, which will be indicated on the display.
9. Press Start to begin the pressure cooker cycle.
10. The timer will start counting down only after the unit reaches the preset temperature and pressure.

After the pressure cooking cycle

1. At the end of the cycle, the pressure cooker beeps once before the heating plate turns off.

NOTE: After the heating cycle, do not keep slides in the pressure cooker for an extended amount of time, as the temperature inside the chamber decreases slowly and this may affect the performance of your nucleic acid or epitope retrieval procedure.

2. Slowly rotate the pressure valve to the "Pressure Release" position in order to discharge steam and make sure that the float valve drops. Leave the valve in the "Pressure Release" position until there is no steam in the pressure cooker chamber.



Cancel

1. When pressure cooker is working or during a set function, press this key to cancel all current settings, and set the instrument in standby mode.

CLEANING AND STORAGE:

1. Before cleaning, unplug the unit from the outlet.
2. Wait until the working chamber, the water inside chamber and the support have cooled to room temperature, then discard the water from the chamber.
3. Use a clean cloth or paper towels to clean the lid, including gasket, pressure release valve, filter, vent hole, float valve and pressure cooker chamber.
4. Use a soft cloth or paper towels to wipe the outside of the pressure cooker. Do not immerse the pressure cooker in water to wash it!
5. Empty the water in the inner pressure chamber. Use water and a soft brush or non-metallic brush to clean the inner pressure chamber, then wipe and dry with a cloth or paper towels. Never use detergents, harsh chemicals or scouring pads.
6. Use a soft brush to clean the discharge pressure valve and vent hole to ensure that steam can pass through the valve.
7. Disconnect the condensation collector, remove any water, and dry it with cloth or paper towel.
8. Reconnect the condensation collector to the main body and place the inner pressure chamber back inside the main body. Place the support inside the pressure chamber cooker and place the lid on top of the main body. Protect from heat, moisture, mechanical and electromagnetic shock. After use, do not lock the lid to allow any residual moisture to escape the internal parts of cooker.

SAFETY PRECAUTIONS:

1. Read user manual before performing installation, operation or maintenance on the pressure cooker, to avoid personal injury and damage to the instrument.
2. Do not immerse electrical cord, plugs or pressure cooker body into water or other liquids to avoid electrical shock and/or fire hazard.
3. Do not touch hot surfaces of the pressure cooker. Use handles only.
4. Operate the pressure cooker only with properly closed lid.
5. Never attempt to open the lid while the unit is operating. Wait until the unit is turned off and pressure has been completely released. If the lid is difficult to rotate, this indicates that the working chamber has excess pressure.
6. Never move the pressure cooker while operating it.
7. Exercise care when releasing excess pressure from the cooker. Improper technique may result in scalding or injury. Do not use under hanging shelves, cabinets, etc. or damage may occur.
8. Unplug from outlet when not in use or when cleaning / servicing.
9. Always check the pressure limit valve for possible clogging before each run.
10. If the pressure cooker malfunctions during the warranty period, please contact the Bio SB Technical Services Department: Technical@biosb.com.

TINTORETRIEVER IN THE LABORATORY:

The TintoRetriever Pressure Cooker is a rapid epitope and nucleic acid retrieval system which can be used in a variety of applications in the modern Pathology Lab. This section will focus on tips and recommended settings for the TintoRetriever in a Clinical or Research setting.

Different Temperature Options

The Bio SB TintoRetriever Pressure Cooker comes preprogrammed with 6 temperature settings (60°C, 80°C, 90°C, 100°C, 110°C and 115°C) that can be used for deparaffinization, heat epitope retrieval for IHC, ICC and IF or nucleic acid retrieval for CISH and FISH.

Temperature Setting	Temperature Range
60°C	51°C - 64°C
80°C	72°C - 84°C
90°C	85°C - 95°C
100°C	95°C - 105°C
110°C	105°C - 115°C
115°C	110°C - 120°C



IHC, ICC and IF Epitope Retrieval & ISH Nucleic Acid Retrieval

For formalin fixed paraffin-embedded (FFPE) tissue sections, the higher temperature settings (100°C, 110°C or 115°C) with a time of 10 to 15 minutes is recommended for thorough heat permeabilization of tissues. We recommend using Bio SB ImmunoDNA Retriever with Citrate (BSB-0020 – BSB 0023) or ImmunoDNA Retriever with EDTA (BSB 0030 – BSB0033) for IHC, ICC, IF and ISH protocols.

Tissues Prone to Detachment

Should tissues detach after using the high temperature setting, it is recommended that tissues are mounted using Bio SB Hydrophilic Plus Slides (BSB 7028). Hydrophilic Plus Slides prevent tissue detachment while promoting reagent dispersion.

Tissue Microarrays

Tissue Microarrays (or TMA's) typically need gentler epitope retrieval methods than those used with whole tissue sections. At Bio SB, our Normal, Cancer and Cell Line Microarrays undergo heat-induced epitope or nucleic acid retrieval using the low temperature settings (100°C) or higher temperature (110°C or 115°C) options.

TintoDeparaffinator Citrate and EDTA

The TintoDeparaffinator Citrate (BSB 0175 - BSB 0176) and TintoDeparaffinator EDTA (BSB 0177 - BSB 0178) are safe, efficient and economical alternatives to traditional deparaffinization. These solvent-free products reduce exposure to toxic solvents like xylenes, toluene and alcohols when handling FFPE tissues for molecular pathology. These solutions are recommended to be used at lower temperature settings (100°C) or high temperature settings (110°C or 115°C) for 15 min.

TROUBLESHOOTING:

No.	Description	Cause	Solution
1	Unable to close lid.	The installation of the aluminum lid with gasket is not correct.	Properly position the aluminum lid with gasket on support.
		The float valve is jammed.	Gently poke the float valve with a paper clip or tooth pick.
2	Unable to open the pressure cooker lid.	The float valve doesn't fall.	Use a paper clip or toothpick to lower the float valve.
3	Excess vapor leaking from pressure cooker lid.	The installation of the sealing gasket is not correct.	Properly set the sealing gasket on the aluminum lid.
		Sealing gasket has residue.	Clean the sealing gasket.
		Sealing gasket is damaged.	Replace the sealing gasket.
		The pressure cooker lid is not properly closed.	Cover the lid according to the manual.
4	Air leaks from the float valve.	The gasket of the float valve has residue or particles.	Clean the gasket of the float valve.
		The gasket of the float valve is damaged.	Replace the gasket of the float valve.
5	The float valve is not rising.	Internal pressure doesn't reach the minimum limit.	Contact Technical Support for assistance.
		Air leakage of the pressure cooker lid or the discharge pressure valve.	Contact Technical Support for assistance.
6	E1	Open circuit of the sensor.	Contact Technical Support for assistance.
7	E2	Short circuit of the sensor.	Contact Technical Support for assistance.
8	E3	Overheating.	Contact Technical Support for assistance.
9	E4	Pressure Switch Failure.	Contact Technical Support for assistance.

To contact Bio SB Technical Support

Phone: 1-800-561-1145

Email: Technical@biosb.com

TECHNICAL FEATURES:

Cat. #: BSB-7087	Rated Capacity: 6L of Fluid or 96 Slides
Rated Power: 1000W	Rated Voltage: 110-220V 50-60Hz
Working Pressure: 0-60Kpa	Limited Pressure: 80Kpa

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