

## APPENDIX C – MAINTENANCE

Regular maintenance will guarantee safe, efficient operation of the Bravo over the device's entire life.

For better quality maintenance, supplement ordinary checks with regular periodic examinations by a qualified technical service department (*see Appendix Z*).

It is highly recommended users perform a periodic sterilizer validation or 'check' of the thermodynamic parameters of the unit's processes by comparing them with the reference values provided with suitably calibrated instruments. In this regard, see "Periodic Sterilizer's Validation", below.

The ordinary maintenance described here is easy to complete and involves simple instruments.

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|---|---|
| <b>WARNING</b>  |   |
|  | <b>ALWAYS USE ORIGINAL REPLACEMENT PARTS.</b> |

### ROUTINE MAINTENANCE


Follow this schedule to keep the sterilizer operating at peak efficiency. If units undergo **very intense use**, we recommend **shortening** maintenance intervals.

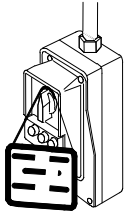
Refer to the Maintenance Description below for further details.

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|--|--|
| <b>DAILY</b>   | Clean the door gasket<br>Clean external surfaces   |
| <b>WEEKLY</b>  | Clean the sterilization chamber and relative accessories<br>Disinfect external surfaces  |
| <b>MONTHLY</b>   | Clean the internal (and external - if installed) distilled water tank<br>Safety valve maintenance<br>Clean (or replace) the drain filter |
| <b>EVERY 3-6 MONTHS<br/>(depending on<br/>frequency of use)</b>              | Replace bacteriological filter   |
| <b>ANNUAL or every<br/>1000 cycles</b>                                       | Replace the door gasket  |
| <b>EVERY 3 YEARS or<br/>3000 CYCLES<br/>(by approved<br/>personnel only)</b> | Recommended complete maintenance and calibration of the sterilizer   |


General warnings:

- **Do not** wash the sterilizer with direct jets of water, either under pressure or sprinkled. Seepage into electrical and electronic components could damage the functioning of the device or its internal parts;
- **Do not** use abrasive cloths, metal brushes or metal-cleaning products, whether solids or liquids, to clean the device or sterilization chamber;
- **Do not** use chemical products or disinfectants to clean the sterilization chamber. In fact, these products can irreparably damage the sterilization chamber;
- **Do not** allow lime residue or other substances to accumulate in the sterilization chamber or on the door and its gasket. They can damage these parts over time in addition to compromising the operation of the components installed along the plumbing circuit.

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|---|---|
| <b>NOTE</b>   |   |
|  | <b>THE FORMATION OF WHITE SPOTS ON THE BASE OF THE INTERNAL WALLS OF THE STERILIZATION CHAMBER IS AN INDICATION THAT YOU ARE USING LOW-QUALITY DEMINERALIZED WATER.</b> |



**DANGER**

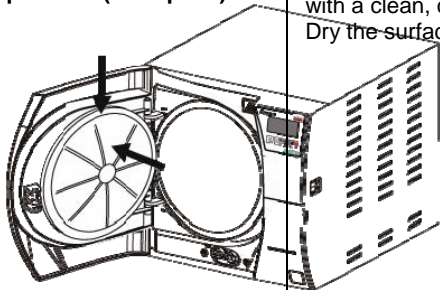
 **BEFORE PERFORMING ORDINARY MAINTENANCE, MAKE SURE THAT THE POWER SUPPLY CORD IS REMOVED FROM THE MAINS SOCKET.**

**WHEN IT IS NOT POSSIBLE, TURN OFF THE EXTERNAL BREAKER OF THE EQUIPMENT POWER SUPPLY LINE.**

**IF THE EXTERNAL BREAKER IS FAR AWAY OR, AT ANY RATE, NOT VISIBLE TO THE MAINTAINANCE WORKER, PLACE A WORK IN PROGRESS SIGN ON THE EXTERNAL BREAKER AFTER TURNING IT OFF.**

**MAINTENANCE DESCRIPTION**

**Clean door gasket and porthole (door plate)**



To remove traces of lime, clean the door gasket of the container and the porthole (door plate) with a clean, cotton cloth soaked in a weak solution of water and vinegar (or similar product). Dry the surfaces and remove any residue before using the device.


**Clean external surfaces**

Clean all the external parts using a clean cotton cloth dampened with water and, if needed, a neutral detergent. Dry the surfaces and remove any residue before using the device.

**Clean sterilization chamber and accessories**

Clean the sterilization chamber, support and trays (and internal surfaces in general) with a clean cotton cloth soaked in water and, if needed, use a small amount of neutral detergent. Carefully rinse with distilled water, taking care not to leave any type of residue in the chamber or on accessories.

**NOTE**

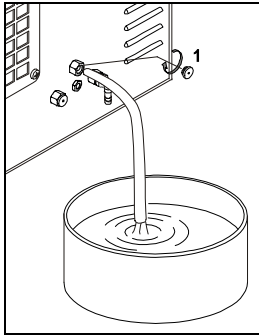
 **DO NOT USE SHARP OR POINTED INSTRUMENTS TO REMOVE LIME ENCRUSTATION FROM THE STERILIZATION CHAMBER. WHEN THERE ARE VISIBLE DEPOSITS, IMMEDIATELY CHECK THE QUALITY OF THE DISTILLED WATER USED (SEE APPENDIX A).**

**Disinfect external surfaces**

For the occasional disinfection of the external surfaces, you can use either denatured alcohol or detergents with a small percentage of sodium hypochlorite (or equivalent).

## APPENDIX C – MAINTENANCE

### Clean internal distilled water tank



1. Arrange an empty container on the floor near the sterilizer and insert the free end of a tube.
2. Unscrew the plug (1) from the rear draining point and plug in the other end of the tube.
3. Wait until the internal tank is completely drained and close the draining point with the plug.
4. Prepare 4 litres / 1.06 US gal of distilled water mixed with 10% of pure alcohol and fill the supplied standard container
5. Fill the internal tank completely with this solution (see Chapter 5 – Instructions for Use **Filling distilled water** for the procedure) and allow the solution to sit for 30 minutes.

#### **WARNING**



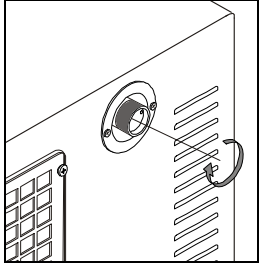
**DO NOT RUN ANY CYCLE DURING THIS PERIOD.**

6. Now drain the internal tank and discard the solution. Close the draining point with the plug.
7. Run one empty cycle of your choice

### Clean external distilled water tank

1. Disconnect the external tank from the sterilizer and recover the distilled water contained in it.
2. Fill the tank with a solution of distilled water and alcohol (10%).
3. Allow the solution to sit for 30 minutes.
4. Drain the tank and discard the solution.
5. Reconnect the tank to the sterilizer.

### Safety valve maintenance



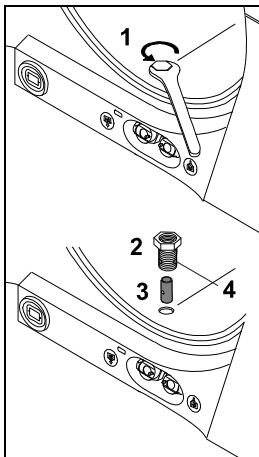
1. Access the safety valve located on the rear of the machine.
2. Loosen the knurled locking ring with your fingers (or a suitable tool inserted in the two holes of the ring itself), turning counter-clockwise until it reaches the end and turns loosely.
3. Retighten the locking ring making sure the threads are properly engaged.
4. **Definitively** tighten the locking ring all the way down.

#### **WARNING**



**THE USER SHOULD PERFORM THIS OPERATION MONTHLY TO GUARANTEE THE CORRECT FUNCTIONING OF THE VALVE OVER TIME. AT THE END OF THE MAINTENANCE, MAKE SURE THAT THE LOCKING RING IS COMPLETELY SCREWED ON AND TIGHTENED.**

### Clean/replace the drain filter



Over time various residues will accumulate inside the filter, obstructing the lower drain tube.

For cleaning (or replace) the filter, open the door of the sterilizer and remove the nut (1) with a hexagonal wrench no. 14.

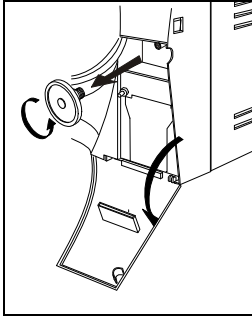
Then remove the fitting (2) and the filter (3).

Remove the filter from the support and carefully clean it under running water, using if necessary a pointed tool to remove possible material of greater dimensions.

If the filter cannot be reused, replace it with a new one.

Reassemble all the parts reversing the order in which you removed the parts. Pay attention on screwing down the fitting (2) so as to let the draining holes (4) at level of the chamber wall.

**Replace bacteriological filter**



When it is due to be changed, or when you notice visible clogging of the filter (when the filter turns gray) unscrew the bacteriological filter from its support and replace it with a new one by screwing it all the way down on the connector on the front of the machine.

**NOTE**

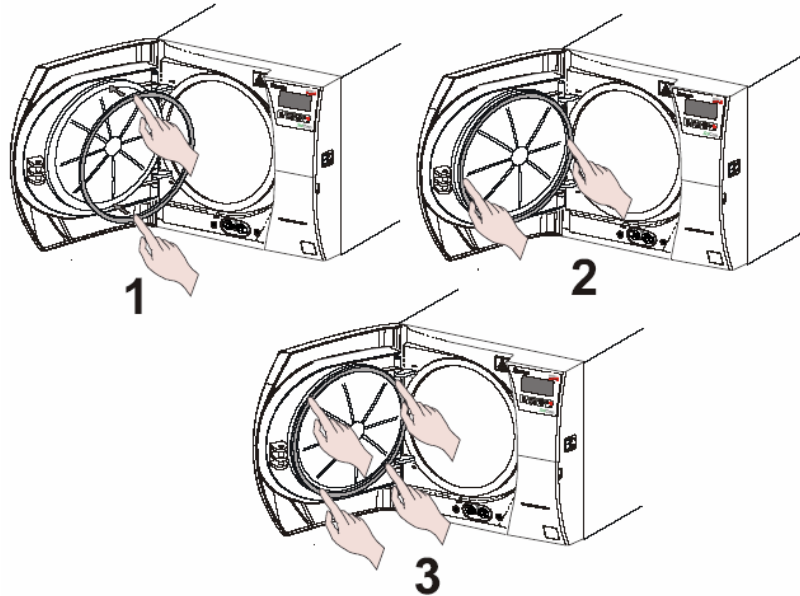


A REPLACEMENT BACTERIOLOGICAL FILTER IS SUPPLIED WITH THE DEVICE. TO REQUEST OTHERS, PLEASE REFER TO **APPENDIX Z, TECHNICAL SUPPORT**.

**Replace the door gasket**

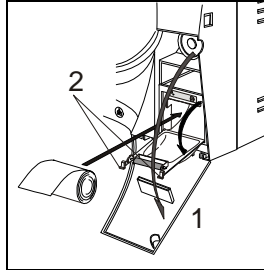
Check the inside of the door to ensure it is not hot and then remove the old gasket by hand. Clean the door gasket seat to ensure it is debris free.

Install the new door gasket by pressing the gasket into its seat, first on top, then bottom, then both sides. Once seated on 4 sides, continue to press the remaining gasket completely into its seat



**Replacing the printer paper on units equipped with internal printers**

Printer type 1

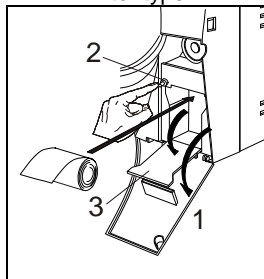


To replace the printer paper:

Printer type1:

1. Open the door (1) of the service compartment to access the printer.
2. Push the tongues (2) to open the printer door and access the paper compartment.
3. Remove the empty roll and place a new roll of **thermal paper** so that the paper unrolls from the top.  
  
The roll must have the following dimensions:  
- width 57 mm (2.24") / diameter max 45 mm (1.77")
4. Unroll about 15 cm (6") of paper and close the compartment door,
5. Thread the paper in the service compartment door slot and close.

Printer type 2



Printer type2:

1. Open the door (1) of the service compartment to access the printer,
2. Push the button (2) on the left to open the printer door (3) and access the paper compartment,
3. Remove the empty roll and place a new roll of **thermal paper** so that the paper unrolls from the top;  
  
The roll must have the following dimensions:  
- 57 mm (2.24") / diameter max 45 mm (1.77")
4. Unroll about 15 cm (6") of paper and close the compartment door (the paper will automatically advance outside the window for several centimeters),
5. Thread the paper in the service compartment door slot and close.

**PERIODIC  
STERILIZER  
CALIBRATION  
AND  
3000 CYCLE  
MAINTENANCE**

To ensure proper performance of the unit, **calibrate** the **sensors** (pressure and temperature), verify the performance of all major components at least every three years or 3000 cycles

Ensuring the sterilizer is routinely maintained and properly calibrated over time is the **responsibility of the user**.

The 3000 cycle maintenance and calibration procedure requires the use of special equipment (high-precision reference instruments, calibration tools, dedicated software, etc.) suitably verified and calibrated in addition to specific experience and training. It is therefore necessary to contact Technical Service to perform this maintenance

**NOTE**



**THE SciCAN CUSTOMER SUPPORT DEPARTMENT (SEE APPENDIX Z) CAN PROVIDE ANY INFORMATION RELATIVE TO THE PERIODIC CALIBRATION OF THE STERILIZER.**