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# BRAVO

## AUTOCLAVES

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### Installation Notes



# BRAVO INSTALLATION NOTES

For questions, technical support,  
service and inquiries, contact:

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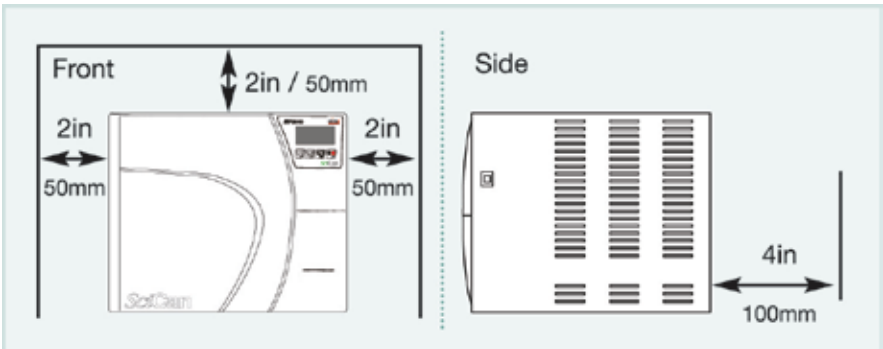
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*Please see back page for Bravo schematic.*

## Installation

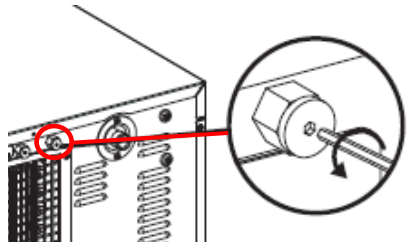
The Bravo must have adequate space around it for the correct circulation of air. Please make sure you have at least 2 inches of clearance on both sides and the top, and 4 inches at the back. The surface should be flat and level. If correctly installed, the design of the units should cause it to tilt forward slightly.

## Ventilation



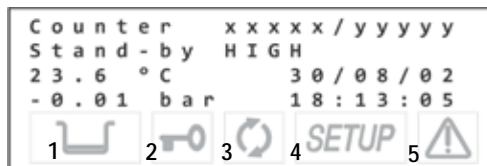
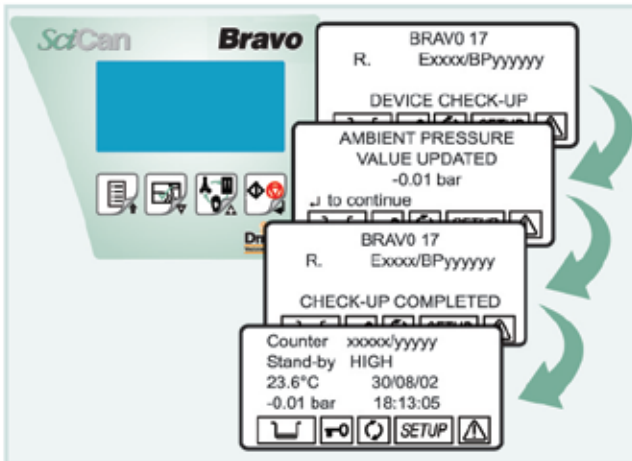
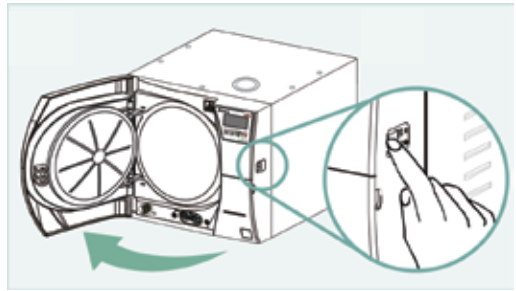
*(Remove the Shipping Nut):*

On some units, a nut may be inserted into the distilled water tank vent hole during shipping. A 3mm allen key wrench is provided to remove this nut if it is in place.



## Powering Up

Every time the Bravo is turned on, it will run through a self check up process. In order to complete this, the door must be open. To open the door, pull on the lower right hand side. After it completes the self test, it will go into Stand-By Mode and alternate between two screens:



Icons from left to right:

1. Water Level - Off most of the time, except for when reservoirs are empty or full
2. Door Status - Off when the door is open, blinking when the door is closed, and steady when the door is locked
3. Process Status - Blinks during the sterilization process, will be steadily on once the sterilization cycle is complete, and until the door is opened
4. Setup Status - On whenever in the Setup Menus
5. Alarm - On if for any reason the cycle didn't finish, along with an error code on the display

## BRAVO INSTALLATION NOTES

### Filling Options (Steam Distilled Water Only)

In majority of installations, the Bravo should be set up for the auto fill option. However, being an optional accessory, this may not be applicable to all installations. If the auto fill option is not going to be used, use the standard Manual Fill option.

#### Manual Fill:

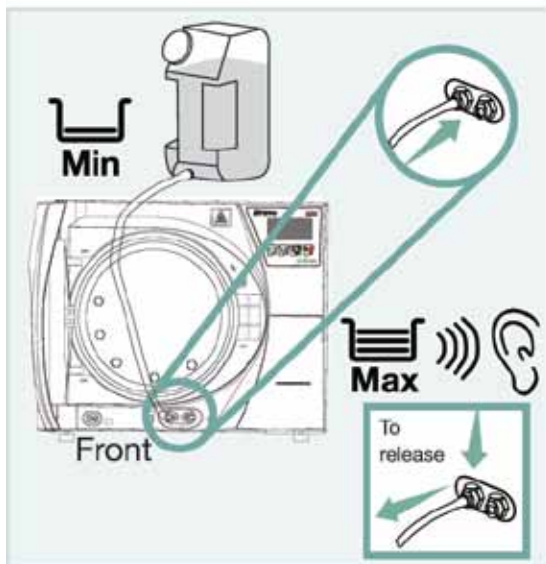
If the auto fill kit is not installed, the office will have to manually fill the machine. Included with the Bravo is a fill bottle and drain tubing, both with quick disconnects.

The fill bottle connects to the left port on the front of the machine when the door is open. An empty machine will take just over 2 full fill bottles.


When the Bravo needs water added, this icon



will be illuminated



As you start adding water, the empty icon will turn off. However, in order to avoid frequent re-filling, it is recommended that you continue to add water

until the full icon appears . When the full icon appears, there will also be a long, loud beep to let you know the machine is full. You must stop filling at this point or the water will reach the air vent at the top of the reservoir and drain out onto the counter.

To speed the filling process, allow some air into the bottle by loosening the cap of the fill bottle once the water level within the bottle is below the cap. Also, if it doesn't look like the water level of the fill bottle is dropping, take the bottle (while still connected to the Bravo) and lower it below the machine, then lift it back up and place on top of the Bravo. The water should then start moving.

### Auto Fill Option:

The auto fill kit includes a bottle and tubing. The bottle may be placed below the Bravo and up to 4 feet away. The bottle connects to the Bravo on the back, in the bottom right corner. This port should already have an barbed elbow fitting in it, along with about 4 inches of tubing. Remove the short tubing from the machine and connect the tube from the bottle. *Keep the short length of tubing in case the machine needs to be primed.* Once installed, you will need to enter the setup menu and change the water fill option to auto fill (see *Configuration for Auto Fill*).

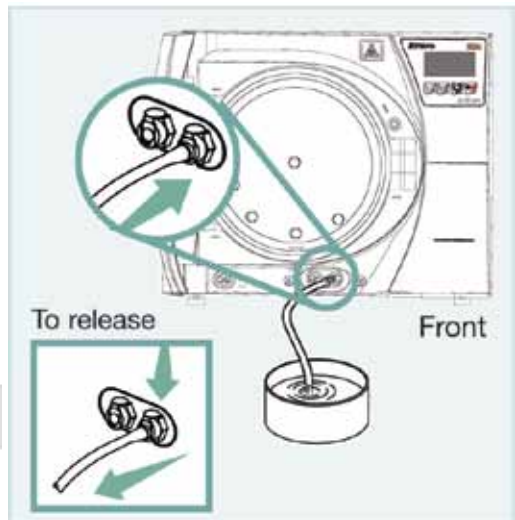


### Draining Options

Most of the time, you would set up the Bravo for auto drain. However, this is optional, so it may not be applicable for you. If that is the case, use the standard Manual Drain Option.

### Manual Drain:

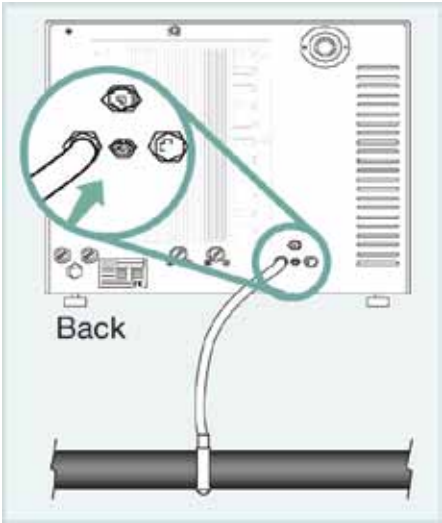
To the right of the manual fill connection is the connection for the manual drain. When the water indicator alternatively flashes from full to empty, it indicates the internal drain tank is full. Using the included hose, push the quick connect into the drain port and run the hose to a sink, drain, or bucket.



**BRAVO INSTALLATION NOTES**

**Auto Drain:**

To the left of the auto fill connection on the back of the Bravo is the auto drain connection. There will be a nut in the port, use the included allen key wrench to remove it. ***Note: If the machine has already been used, first manually drain it using the front connections (see Manual Drain section) otherwise water will come out as soon as you start to unscrew the nut.*** After removing the nut, attach the elbow barbed fitting included in the accessory packet of the Bravo. The tubing of the drain kit attaches to the elbow fitting, and can be run to a draining point. The water coming out of the machine will be warm, but never steaming hot so it is fine to tap into a sink drain or just run the tube across the counter to the sink, just make sure the end point is below the machine. Do not change the Drain Options setting in the setup menu, keep it at Internal Drain.



**Configuration for Auto Fill**

If you've installed an auto fill bottle you need to configure the machine to use it. To do this, enter the setup mode by holding down the far left key for 4 seconds.



When in setup mode, the 4 control panel keys have these functions:

	ESC key to exit the selected menu option		Increases the value / scroll up
	Decrease the value / scroll down		ENTER key to confirm the selected option or value

When entering setup, this is the first screen you will see




continue

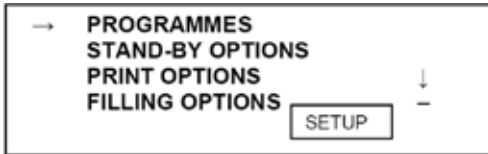
Press the  key to

## BRAVO INSTALLATION NOTES



Press the  or  key

to go to the **ADVANCED** option and then press the  key





Press the  or  key

to go to **FILLING OPTIONS** and then press the  key



Press the  or  key

to go to **AUTOMAT. FILLING** options and then press the  key

You are done. Press  a few times until you see this screen



Then press  to exit.

To confirm your change worked the standby screen should now say:  
Filling AUTOMATIC

If the Bravo internal reservoir is empty, you should hear the water pump come on and start to fill the machine.

# BRAVO INSTALLATION NOTES

## Priming the Auxiliary Pump (if require)

Sometimes a filling error (Error A040) will occur the first time it tries to fill itself. This is usually caused by excess air in the tubing. If this occurs, turn off the machine and then back on. The machine will automatically try to fill itself and usually succeeds with no further errors. If the error persists, you may need to prime the machine. This may be especially true for a machine that has been used prior to the bottle being installed.

To do this, disconnect the fill bottle tubing from back of the machine. Attach a short piece of tubing, such as the one that was connected to the fill port (rear, right port) during shipping, to a large syringe. Fill the syringe with distilled water and connect it to the automatic fill port (rear, right port). Turn on the machine and empty the syringe into the machine once the auxiliary pump activates. If the pump does not activate when the power is turned on, activate the pump via the Service/Device Menu. When you are successful, you will hear a slight gurgling sound. Reconnect the fill bottle and you should notice the water being pulled up the tubing from the bottle. You may receive one or two more A040 error codes. Turn the machine off and on again and the error code should stop.

## Running a Cycle

There are 4 Command Keys on the front of the machine.



During normal use, these buttons should not be needed:



Test Cycle Selection



Enter Setup Mode

Only use these buttons:



Cycle Start/Stop



Sterilization Cycle Selection

For everyday use, only the two keys on the right should be used: Cycle Start/Stop and Sterilization Cycle Selection. To run a cycle, first press the Sterilization Cycle key. There are 4 preset cycles that you can scroll through. After you choose your cycle, make sure the door is closed and press Start.



## Manual Interruption of Cycle:

If a cycle needs to be interrupted prior to completion, press and hold the Cycle Start/Stop for 3 seconds. The error code E999 will show up. Wait until the leveling and cleaning procedures are completed, and then press the Enter Setup Mode key to unlock the door. To reset the program see next section.

## Reset Key:

If the machine says it needs to be RESET, press and hold the Sterilization Cycle Selection key for 3 seconds

**SciCan Bravo**

**Main Menu** **Test Cycle** **Cycle Selection** **Start/Stop**

**HOLD for 3 seconds**

**Reset System** **Interrupt Cycle**

### CYCLE DESCRIPTIONS

**Porous or Hollow**  
– Textiles, Hollow, Lumened, Solid instruments  
(*Eg.: handpieces, smocks*)

**Solid**  
– Solid, non-lumened instruments  
(*Eg.: scissors, mirrors, pliers, scalers, burr block*)

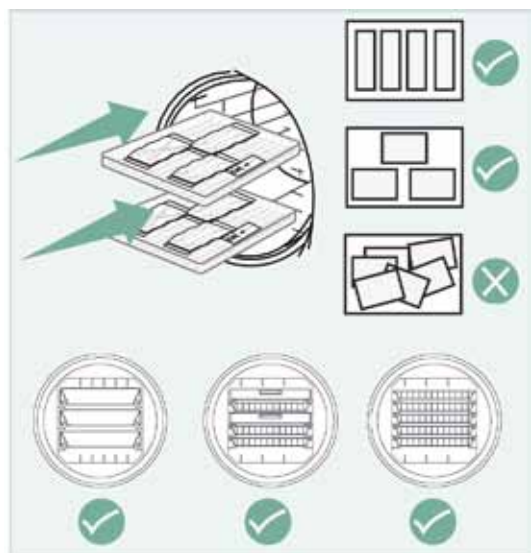
**Wrapped**  
– Instruments that are wrapped in a cloth or paper wrap or pouched in a paper/paper or paper/plastic pouch. Also used when mixed loads are processed.

**Unwrapped**  
– Instruments that are placed without any type of packaging.

## Chamber Rack:

The Chamber Rack can be rotated to accommodate either cassettes or bagged/loose instruments. There is a little probe in the back left corner of the chamber that locks the rack into position.

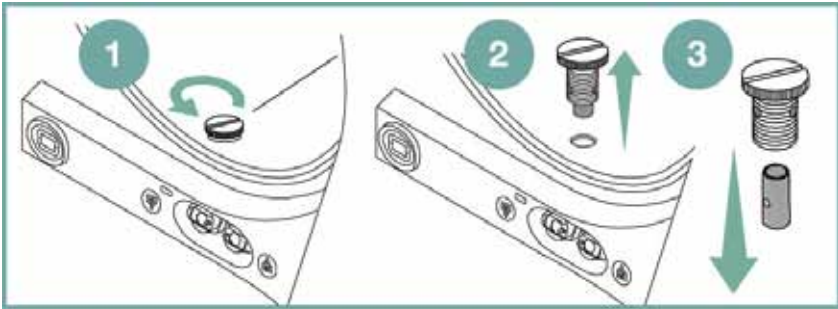
You always want the cassettes or instruments to be in a horizontal position. If using paper/plastic pouches, always place paper side down.



## BRAVO INSTALLATION NOTES

### Maintenance:

There is a good maintenance chart included with the machine. The most important part is keeping the chamber drain filter clean. With the door open, you will see a nut at the front center of the chamber. Once removed from the chamber, you will see the filter attached. Pull the filter out and clean it at least once a week. Be sure to look at the bottom of the filter to ensure there is no debris. When re-inserting the filter, hand tightening the nut is all that is needed.



### Other Hints/Reminders:

- Always ensure there is enough ventilation around the unit.
- Ensure the area around the unit is dust free and dust will be pulled into the Bravo causing possible errors.
- Always use steam distilled water
- When setting up the auto drain, do not change the Drain Option setting in the setup menu, it should be set to Internal Drain.
- If using an auto fill bottle, always try to keep it at least 1/4 full, and there is never any harm in “topping it off” when time permits
- Clean the inside of the chamber weekly, with a wet cloth to remove any staining.

### Common Error Codes:

Below is a quick reference for some error codes you may encounter.

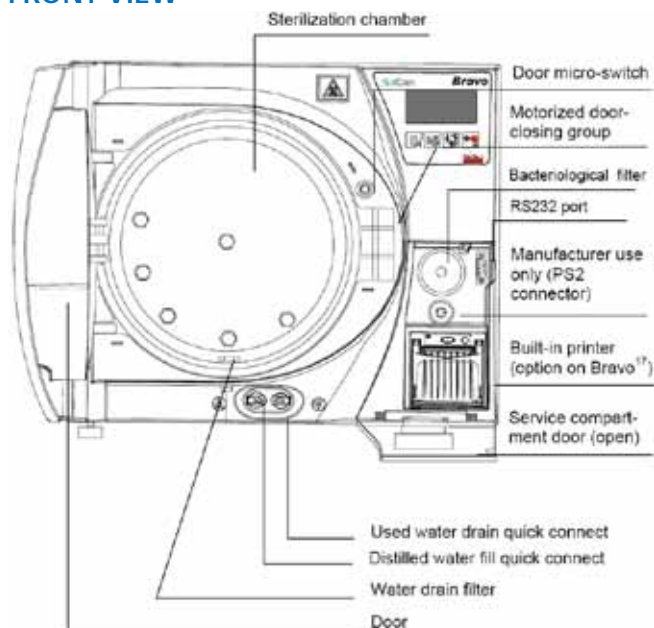
*Remember:* in case of an alarm, do not power off the unit before you have executed a reset.

See Appendix G of User's Manual for Technical Support contact details.

Code	Description	Solutions
A022	LOCKING PROBLEM	Contact Technical Support.
A023	LOCKING PROBLEM	
A024	LOCKING PROBLEM	
A040	FILLING PROBLEM	Perform a reset. Fill the tank with enough water, and then retry. If error persists, check that the water supply tube is properly connected and eliminate all possible obstructions along its path. If error persists, contact Technical Support.
A250	PV1 TIME-OUT	Perform a reset. Carefully dry the inside of the chamber. Clean the door gasket with damp cloth. Start the program again. Do not put material impregnated with liquids in the chamber. If error persists, clean or replace the drain filter. If error persists, contact Technical Support.
A251	ATM1 TIME-OUT	Contact Technical Support.
A252	PP1 TIME-OUT	Perform a reset. Clean the door gasket with damp cloth. Start the program again. Make sure not to overload the chamber. If error persists, contact Technical Support.
A253	PV2 TIME-OUT	See Error Code A250.
A254	ATM2 TIME-OUT	Contact Technical Support.
A255	PP2 TIME-OUT	See Error Code A252.
A256	PV3 TIME-OUT	See Error Code A250.
A258	PPP TIME-OUT	See Error Code A250.
A260	PPD TIME-OUT	Clean or replace the drain filter.
E031	EXHAUST MAX	Perform a reset. Check that the drain tube is properly connected and eliminate all possible obstructions. If error persists, manually drain the machine as per the <b>Manual Drain</b> section. Contact Technical Support if error reoccurs.
E999	MANUAL STOP	Perform a reset.
H403	T UNDER LIMIT	Contact Technical Support.

# BRAVO INSTALLATION NOTES

## FRONT VIEW



## REAR VIEW

