BULLETIN #B038

CHEMICAL pumping QUANTITY TEST
In ATL-2000, 3000, and 2x00 processors

The purpose of this bulletin is twofold.

You will be able to verify your AutoLab is pumping the proper volume of liquid and if necessary, be able to make the necessary changes to the volume.

You will need:

No tools or spare parts are needed to perform this procedure.

Procedure:

1. Completely fill the chemical bottles with rinse water.
2. Measure the temperature of the water currently in the bottles and ENTER this temperature value into the PR.TEMP step in the program.

IMPORTANT! It is critical that the temperature of the water inside the bottles matches the temperature programmed into the processor.

3. Please enter the follow **"wet test program"** into your ATL:

Program Step	Time
REST (Available Chemical Volume	1.00 See NOTE below
PR.TEMP	Match this value to the temperature of the water inside the bottles.
PREHEAT	0:00
PRE-RINSE	0:30
CHEMICAL 1	**0:10**

RINSE 1	0:00
CHEMICAL 2	**0:10**
RINSE 2	0:00
CHEMICAL 3	**0:10**
RINSE 3	0:00
CHEMICAL 4	**0:10**
RINSE 4	0:00
CHEMICAL 5	**0:10**
RINSE 5	0:00
CHEMICAL 6	**0:10**
RINSE 6	0:00

NOTE: Enter a "FULL" available chemical quantity amount into the REST field of the operational display. For example, enter 1.00 L, or 1.50 L depending upon the ATL model. This is simply accomplished by pressing the holding the ▲ arrow for two (2) seconds.

4. Set the processor to pump 730 ml by setting the **Transport vol:** field located in the operational display.
5. Place an empty processing tank onto the lift arm of the processor. The tank should be large enough to contain at least 2.5 L of liquid.
6. START the program.

OPERATIONAL POINT 1: After starting the program, allow the processor to "auto-start" by allowing the chemical and water bath temperature to equalize.

OPERATIONAL POINT 2: After the "wet test program" has started, individually collect or reclaim all of the chemical and rinse water.

7. Using a 1L graduate, measure the collected quantities.

OPERATIONAL POINT 1: If the collected *chemical* amount is **between** -5% to +10% of the volume requested (694 ml to 803 ml for pumping 730 ml), then the pumping quantities are within the acceptable pumping tolerance.

OPERATIONAL POINT 2: If the collected *chemical* amount is **lower or higher** than -5% to +10% of the volume requested, then an adjustment must be made in the *Service Menu*section of the software.

OPERATIONAL POINT 3: If your collected *rinse* amount is **greater than** 1 L or 1000 ml, then the rinse water quantity is sufficient.

NOTE: To measure the rinse water volume, you must remove the film tank from the lift arm and manually empty the rinse water into a graduate immediately after the rinse water enters the film tank. Be quick though; the processor will continue with the next processing step with or without the film tank attached to the lift arm.

8. If your processor does not pass the Chemical Pumping Quantity Test and you need to make and adjustment to the *Filling Pump* calibration setting in the *Service Menu*, please continue with the following steps.
9. Enter the *Service Menu* by:

WARNING! **The *Service Menu* is a dangerous area in the software if you have not been trained to use it!**

There are seventeen (17) areas in the *Service Menu*.

ENTER ONLY INTO THE AREAS SPECIFIED IN THIS BULLETIN!

WARNING!

Failure to follow the directions in this bulletin can lead to the erasure of all temperature and pumping calibration settings!

WARNING!

A. Switch OFF the power to the processor.
B. Push the *ENTER*, *START*, and *ON/OFF* keys **simultaneously**.
C. The display should now read "SERVICE MENU." If it does not, switch OFF the processor and perform Step B again.
D. Position the cursor on **Area 1: Filling Pump**.
E. Press ENTER to proceed to the Filling Pump calibration area.
F. Press the ▼ or ▲ arrows to decrease or increase the pumping quantity percentage of pumping capacity.

The allowable range for air pumps:	
12V	68% to 126%
24V	64% to 100%
You will know which voltage air pump is in your processor by reading the voltage in the display.	

10. If the pumping quantities are *too low*, then increase the pumping quantity percentage using the ▲ arrow.

If the pumping quantities are *too high*, then decrease the pumping quantity percentage using the ▼ arrow.

OPERATIONAL POINT: When testing the pumping quantities at 730 ml, a ±5% change equals approximately ±20 ml change depending upon the direction you change the percentage.

11. After changing the pumping quantity percentage, press ENTER to exit to the main *Service Menu*. Switch OFF the processor, then ON for normal usage.

NOTE: The **ATL-3000's** pumping quantity percentage effects both the front and rear bottle batteries. Please note the front bottle battery will traditionally pump less than the rear bottle battery. Therefore make sure your calibration decision accommodates the front bottle battery.

The **ATL-2300, 2400, and 2500** each have individual pumping quantity percentages for each bottle battery. Therefore when pressing ENTER in Step 12, you will move from the FR (front) bottle battery percentage setting to the REAR bottle battery percentage setting. When you press ENTER a second time continue with Step 12.