

Execution of the BicarBlast RAVOL liquid volume test

Contents and description of the RAVOL volume test kit:

A bottle of RAVOL test liquid. Specially designed for volume measurement and special drying properties. Be aware of the changing properties of the ink after exceeding the tenability date.

So, do **not forget to order your bottle of ink each three months!**

A bottle filled with BioClean DRAGON cleaning liquid and special sponge for removal of the ink spots on the anilox roll.

Some measurement forms are included. The quality of the paper is an office quality paper of 80 grams/m².

Some pieces of steel doctor blade with 0.25 mm thickness are included.

Keep the pieces of doctor blade in condition by pulling it over a very fine grade of abrasive paper frequently. Replace your doctor blades when stripes or damages occur.

A planimeter or USB stick with scan software is included for determining the surface of the printed ink spot as shown below. (depends on the version RAVOL kit you have purchased)

Starting the volume measurement:

Adjust the clean and calibrated Multipette to the right volume as shown in the table.

Screen (lpcm)	Volume (cm ³ /m ²)	Transferpettor (µl)
0 to 20	55.0 to infinity	100
21 to 40	27.5 to 54.9	50
41 to 90	12.5 to 27.4	25
91 to 200	5.5 to 12.4	10
201 to 400	0 to 5.4	5

Make sure that the anilox surface to be tested, is clean and dust-free. To eliminate influences from surface tension clean the surface with BioClean DRAGON and the special sponge.

Fill the multipipette with test liquid. (see next page how to use the multipipette) Do not forget to order a new bottle **each 3 months**. Slowly release the operating lever.
Empty the multipipette on the anilox surface as drawn in the picture. Spread the ink over the roll surface by pulling a flat piece of doctor blade one time firmly over the surface as drawn here. Only use a smooth and superfinished piece of doctor blade



Make an exact copy of the print of the spot on the delivered testing form.
Never use any paper that causes and kind of magnification of the spot.
Make three reliable prints in total. One on the left, middle and right side of the anilox roll.



Left side



Middle side



Right side

Using the Multipette:



1. When you have put the tip into the pipette you use the “filling lever” to fill the tip with ink. It is like a syringe a doctor uses for providing an injection. You fill the pipette always completely
2. You see the value blinking on the display.
3. By pushing the “operating lever” once you calibrate the pipette so it know its position and is ready for use.
4. The display will stop blinking.
5. Using the blue volume selection dial on the side allows to set the volume you will apply every time you push the dispense handle completely down.
6. The display will show the ink volume you dispense every time you push the dispense handle.

Using the planimeter: (when you have scansoftware start here reading the manual for scansoftware)

Determine the printed surface with the planimeter.

Draw a start line and place the center dot in the tracer lens on the intersection of start line and circumference line. Push [ON/CE] to turn the planimeter on.

Push [START] when the tracer lens is positioned and move the center dot along the circumference. Read out the surface when the center dot is back at the start line. Calculate the volume of each spot with the following formula.

$$\text{Volume (cm}^3\text{/m}^2) = \frac{10 * \text{Volume } (\mu\text{l})}{\text{Surface area (cm}^2\text{)}}$$

Finally calculate the average of three calculated volumes.

This gives you the final result of your volume measurement.



Notes for use:

Make sure that the wheels on the roller axis and bottom can roll free without encountering any obstructions during a measurement.

Further make sure that the tracer lens is clean to perform the best measurement.

Never use the planimeter when the battery is low. This is indicated when "BATT" is lit on the display. Using the planimeter with a low battery can result in unreliable measurements.

Notes for maintenance:

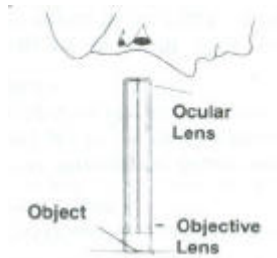
The planimeter does not need to be calibrated but a periodic test on chequered paper gives you the most certainty.

The planimeter is equipped with a rechargeable battery. It takes about 15 hours to load the rechargeable battery completely and you can work with it for around 30 hours.

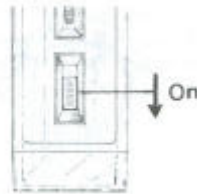
The battery can only be recharged with a 5.8 VDC, 11 mAh adapter.

Using the microscope:

Further each RAVOL volume test kit is standard equipped with a 100 times magnification microscope. These can be used like this:



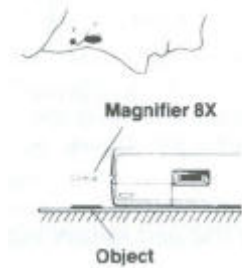
Place the transparent cover's Open area above the object you Want to view.



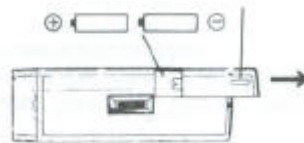
Switch the power switch to turn on the light.



Look through the ocular lens and rotate the focus adjustment knob for the sharpest view.



Built-in lens that magnifies 8 times.



Insert two AA batteries as Indicated by the polarity symbols (+ and -) marked inside the battery compartment.

For questions or to order spare parts, please contact us at: info@bicarblast.com