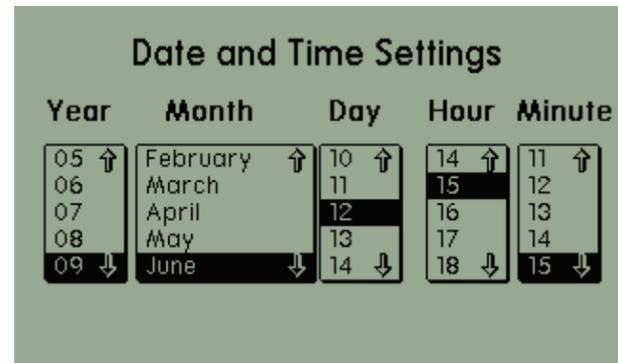


## Changing Date and Time

Operators may need to change the date and time displayed on the instrument. This may be accomplished by tapping the Date/Time field at the bottom of **Warm Up Screen** or the **Ready to Test Screen**. These fields are soft buttons which will access **Date and Time Screen**. This screen provides list boxes to set the Year, Month, Day of Month, Hour and Minute. The current time string is displayed on Operational Pages and on the test result printout in the standard ISO-8601 format of "YYYY-MM-DD HH:MM".

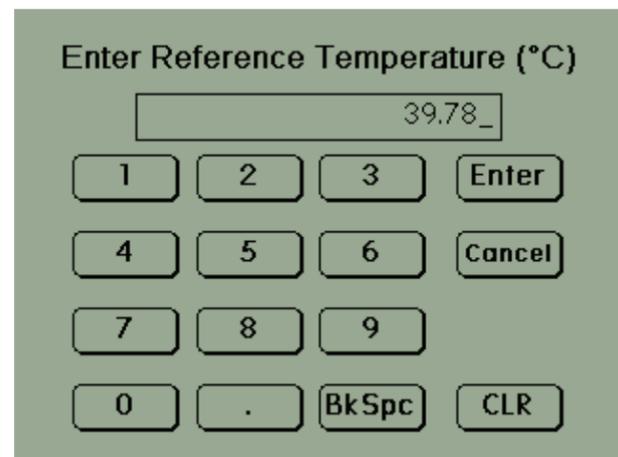


## Calibrating Temperature

Periodically, the temperature calibration should be checked with a digital reference thermometer. The temperature should be recalibrated if the displayed temperature does not agree with the reference thermometer.

The user may access **Temperature Calibration Screen** from the **Ready to Test Screen** by tapping the temperature field 3 times within 2 seconds. The **Temperature Calibration Screen** will appear and then the user may enter the temperature as read from the reference thermometer to the nearest 0.01°C. This may need to be repeated if the temperature still does not agree with the reference with the desired tolerance.

It is recommended that the instrument temperature be at target for at least 30 minutes before recalibrating if the instrument has been powered down for more than a couple of hours. This will insure proper calibration as it may take some time for the entire instrument to come to proper thermal equilibration from a cold start.



## SimpleVIS Quick Start Guide

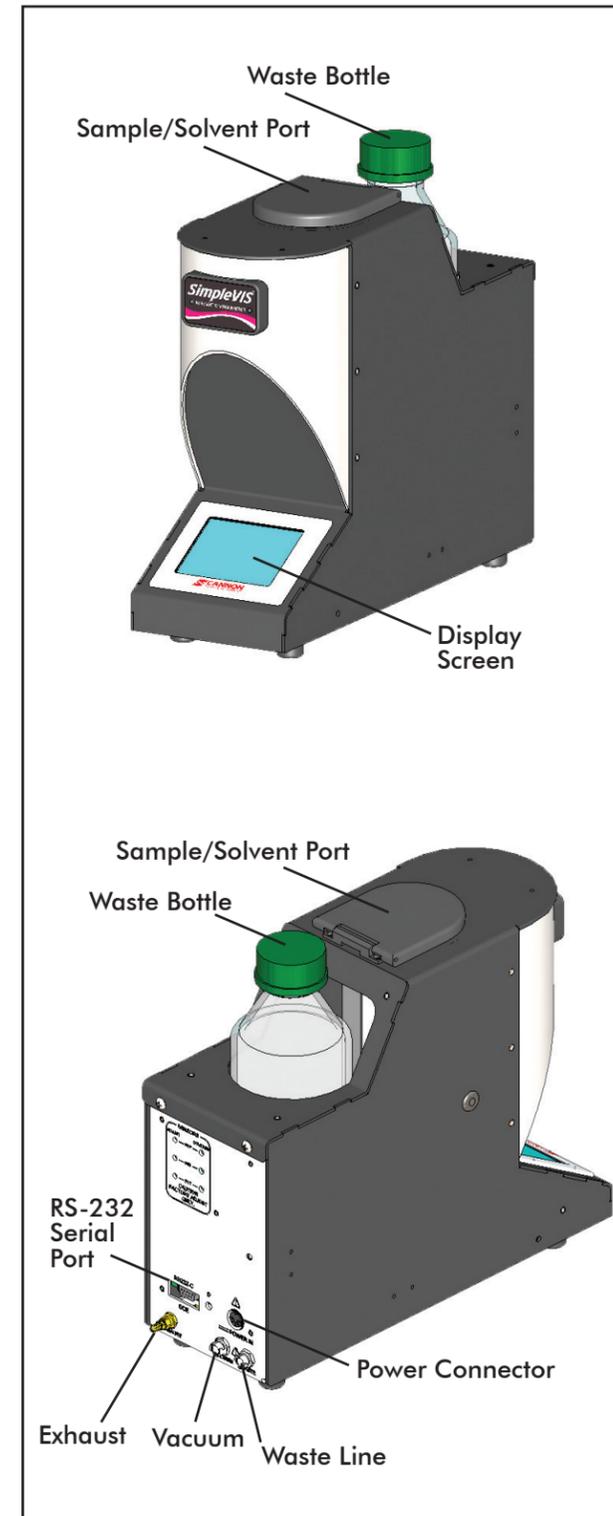
This guide contains basic instructions for unpacking, setting up and running single determination kinematic viscosity measurements on the SimpleVIS™.



### Step 1. Unpack your SimpleVIS™

Remove all packing materials from the components.

1. Verify that you have received all components for the SimpleVIS by comparing equipment items with the shipped materials. Report missing items to CANNON® Instrument Company immediately.
2. Inspect each component for signs of damage. Report damages to the shipper and CANNON® Instrument Company immediately.
3. Retain all packing materials until the instrument is connected and functioning properly. If any component(s) must be returned to CANNON® Instrument Company, the damaged item(s) should be packaged in the enclosed shipping case.



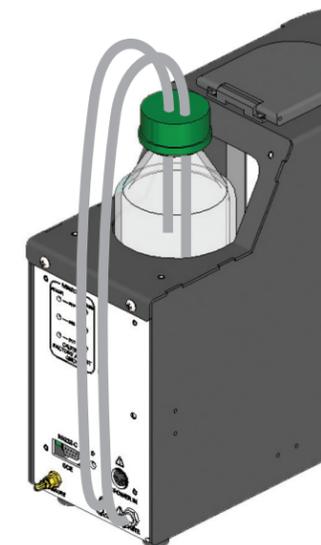
### Step 2. Setting up your SimpleVIS™

Complete the following rear panel electrical connections:

4. Plug the AC/DC adapter into the power connector on the rear panel of the instrument. Make sure the power switch on the AC/DC adapter is off.
5. Plug the power cord into the AC/DC adapter.
6. Plug the other end of the power cord into an appropriate outlet matching the voltage requirements indicated on the AC/DC adapter.
7. Do not turn on the AC/DC adapter switch at this time. (Optional printer: Plug the 9 pin serial printer cable into the RS232-C port on the rear panel of the instrument. Then plug the other end into the printer.)

Complete the following tubing connections:

8. Locate the glass waste bottle and securely tighten the bottle cap to ensure an air-tight seal. Place the bottle in the holder on the top rear of the SimpleVIS.
9. Connect the 1/8" transparent tubing as indicated in the image.
10. Make sure that the waste line extends into the cap further than the vacuum line.
11. Place the plug in the bottle cap.



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### Step 3. Getting started

12. Press the **ON** switch on the AC/DC adapter. The **Warm-Up Screen** will display a **Please Wait** message. During this time, the instrument will seek the preset target temperature and when reached, the instrument will enter an equilibration period. The default value for the equilibration period is 180 seconds.
13. Once the temperature has equilibrated and the instrument is ready for measurement, the run status indicator will illuminate and the user is prompted to inject the sample.

The 'PLEASE WAIT' screen shows: Seeking Target Temperature: 40.00 °C, Actual Temperature: 32.00 °C, and Previous Result: N/A mm<sup>2</sup>/s, N/A °C. The 'Ready to Test' screen shows: Please Inject 0.5 mL Sample, Actual Temperature: 40.00 °C, a 'Start' button, and Previous Result: N/A mm<sup>2</sup>/s, N/A °C.

### Step 4. Injecting a sample

14. Using a piston operated pipettor, insert the tip into a vial of test sample and pull the measured amount into the pipettor.
15. Place the pipettor at an angle into the sample/solvent injection port located on the top of the instrument and gently release the fluid in one, continuous motion so that the entire sample is smoothly dispensed into the tube without introducing bubbles.

The **Inject Sample Screen** contains a **START** button. Pressing the button is optional as the injected sample will automatically be detected. The button is useful for higher viscosity fluids that might take a while to trip the top sensor.

The Run Status Indicator Light will blink and the result will be displayed in when the test is complete.



### Step 5. Print the results (only if optional printer is installed)

16. Press the **Print** button on the display screen to printout the test results to an attached serial printer.
17. You may decline print and skip directly to the wash cycle.

#### Measurement Complete

Efflux = 107.02 s  
KV = 328.8 mm<sup>2</sup>/s  
Temp = 40.00 °C

Print Wash

### Step 6. Wash/ Dry cycle

18. Press the **Wash** button on the display screen to start the wash cycle.
19. Place the tip of the solvent bottle along the opening of the tube capillary in the sample/solvent port and squeeze a small amount of solvent to clean any oil residue that might be left over from injecting the previous sample.
20. Place the tip of the solvent bottle into the tube capillary for approximately one second (no need to squeeze the bottle, the pump will have pulled the solvent in) and then remove for several seconds to allow the solvent to be drawn through the viscometer tube to the waste bottle. Repeat this step several times (typically 4, or 7 for heavy oil) based on the type of sample being tested.
21. Press the **Dry** button on the display screen to start the dry run cycle.
22. The display will show the time remaining in the dry cycle.

When the dry cycle time ends, the pump will turn off and the instrument will return to the **Warm Up Screen** message for a period of 60 seconds. The instrument will then be ready to run a new sample measurement at the leisure of the operator.

#### Measurement Complete

Efflux = 107.02 s  
KV = 328.8 mm<sup>2</sup>/s  
Temp = 40.00 °C

Print Wash

#### Evacuating Tube

Please Inject Solvent

Dry

Previous Result  
456.5 mm<sup>2</sup>/s 40.00 °C

#### Drying Tube

Time Remaining

24 s

Previous Result  
456.5 mm<sup>2</sup>/s 40.00 °C

### Step 7. Additional Information

#### Discretionary Washing

Tube washing is normally performed after a test is completed, but there may be other times when the tube needs washing. For example, if the user injects oil into the tube and the sensors do not detect it for some reason. In cases such as this, the wash cycle may be started by tapping the "Ready to Test" caption field in **Ready to Test Screen** or the "Timing Started" caption field in **Timing Screen** three times within 2 seconds. This will cause the display to switch to **Wash Screen** and start a normal wash cycle.

continued next page...

#### Timing Started

Elapsed Time

16 s

Actual Temperature

40.00 °C

Previous Result

N/A mm<sup>2</sup>/s N/A °C