

# LAB KIT

## DEVIL®

### LAB KIT FOR EASY USE IN LAB CONDITIONS

The LAB KIT is a straightforward way to perform tests and evaluate the DEVIL® sensor with minimal integration effort in laboratory conditions. The SensAvenue software provides “Plug and play” capability to display, compare, compensate and store data.

The LAB KIT is the easiest way to qualify and validate your concept, reduce development time and associated costs, prior integrating the DEVIL® into your own equipment.



**NOW AVAILABLE**

### THE LAB KIT BENEFITS



**FAST DELIVERY TIME**



**EASY START UP**



**SIMPLE HANDLING**

### THE LAB KIT INCLUDES

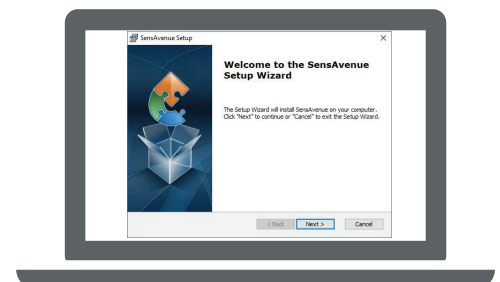
- ▶ **DEVIL®** embedded liquid temperature, density & viscosity sensor - digital communication
- ▶ **SensAvenue Software** for data display and acquisition
- ▶ **Open base plate** ideal for lab testing (static fluid)
- ▶ **USB cable**

### QUICK START GUIDE

**1**

#### SENSAvenue INSTALLATION

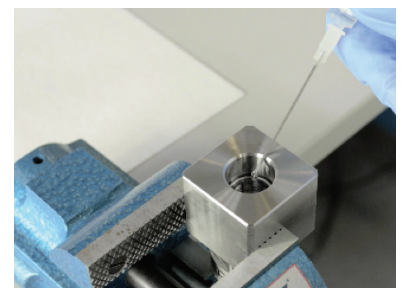
- ▶ Run SensAvenue from the USB memory stick. Then, follow the setup wizard and the instructions to complete the installation.
- ▶ Install the FTDI drivers from the USB memory stick.



**2**

#### SETTING-UP THE SENSOR

- ▶ Grab the device by the baseplate, using a bench vice.
- ▶ Fill the liquid to be tested using a syringe up to the baseplate's top.



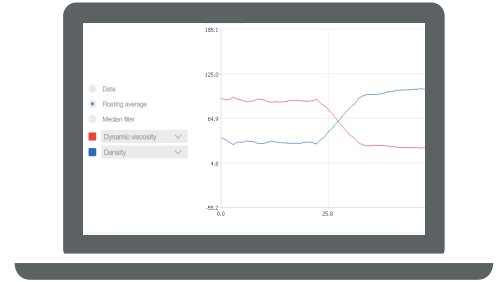
### 3 SENSOR CONNECTION

- ▶ Connect the cable to the sensor, then to the computer. Start SensAvenue. On the home window, select the sensor you would like to start by its serial number.
- ▶ If you need to run multiple sensors in parallel, repeat the operations 2 & 3 for each device.



### 4 RUNNING EXPERIMENTS

- ▶ Liquid properties are displayed on the main window, several units can be selected.
- ▶ Click on "+ Add curves" to plot more graphs of the different measures.
- ▶ In the "Model" tab, calculation features are available, using existing formulas. You can also create your own.
- ▶ Use the help menu of the SensAvenue software.



## BEST PRACTICES



### BEFORE TESTING

- ▶ Sample preparation: In order to avoid injection of gas bubbles in the liquid, it is recommended to use a syringe with a needle and to slowly push the liquid **inside the baseplate**.
- ▶ Operating temperature must be in compliance with the sensor specifications (see sensor's marking & User Manual)
- ▶ Measurements in air: DEVIL® can operate in air however is built to measure liquids: any sensor output in air shall be disregarded. **Need to measure gas density ? Order the NORTHDOME® sensor.**

### DURING TESTS

- ▶ Liquid warm-up: Using DEVIL® in static conditions, you might observe a temperature change of the liquid with time due to sensor's self-heating. This does not affect device performances and disappears when fluid is flowing.
- ▶ For accurate metrological evaluation, it is recommended to use a temperature control equipment such a climatic chamber along with reference liquids.
- ▶ The DEVIL® embeds density field adjustment capabilities, please refer to the User Manual for further information.

### CLEANING

- ▶ Best measurements come with best cleanings: we recommend to fill the baseplate with solvent (compliant with the sealing materials) and dry it using compressed air. Repeat if necessary.
- ▶ Please keep the sensor mounted on its baseplate in order to preserve factory calibration. If you need to dismantle it, ensure to use a torque of 3.5 N.m while screwing the device back on the plate and proceed to a field adjustment if necessary (refer to the User Manual).
- ▶ Take great care not to damage the sensing element of the device as it may affect sensor's calibration and operation.

Further information about the DEVIL® is available in the User Manual