



## WINE QUALITY SOLUTIONS

### MEASUREMENT OF TOTAL PACKAGE OXYGEN (TPO) AT BOTTLING

#### 1. PREPARE THE MATERIALS

- Sensor spots PSf3 (two per bottle).
- Gluing kit (glue, spatula).
- Temperature sensor.
- Optical fiber.
- Flint bottles of the same type/dimensions as the production bottle used.

#### 2. GLUE SPOTS INSIDE THE FLINT BOTTLES

- Position the spot on the tip of the spatula (red side facing upwards).
- Apply a small quantity of glue on red side, without covering the black side.
  - a. Place the first spot in the body/middle of the bottle (red side glued to glass).
  - b. In the neck of the bottle, mark position of fill height and length of the cork + 2 mm.
  - c. Place the second spot between the two marks.
- Let it dry for min. 30 minutes.

#### 3. BOTTLING LINE

- Introduce the flint bottle(s) with the spots on the bottling line.
- Collect the bottle(s) immediately after corking/capping.
- Take an additional production bottle off the line.



#### 4. MEASUREMENT

- a. Enter the calibration data from the spots calibration sheet into the analyzer or if you use the QR code, go to the next step.
- b. Open a second bottle from the production run (with no spots) and insert the temperature probe.
- c. In the Menu, select the TPO icon and click on "ok".
- d. Enter the required information (Head space size (distance between wine and closure) in mm, internal diameter of the neck) and click on the right arrow.
- e. If needed, scan the QR code, measure the sensor in the head space and click on the right arrow.
- f. Wait for 40 min and, scan the QR code, measure the sensor of the wine and click on the right arrow.

The TPO is automatically displayed on the screen in mg/L.

#### 5. VARIATIONS

Screw caps: the spot applied in the bottle neck will be covered by the screw cap skirt. For headspace oxygen, carefully cut away skirt without breaking the seal to access the spot.

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