



## QSensor QSX 327 HA

The QSensors are developed and produced to provide you with stable, reliable and reproducible data. Full performance is ensured through extensive quality controls and guaranteed for one-time use according to the recommendations.

### Sensor specifications

|                                  |   |
|----------------------------------|---|
| Description                      | QSX 327 HA  |
| Top coating material             | Nanocrystalline Hydroxy Apatite (HA) <sup>A</sup>   |
| Surface roughness                | < 2 nm RMS <sup>B</sup>   |
| Maximum temperature <sup>C</sup> | 250 °C  |
| Pre-cleaning of sensor           | A new sensor might be contaminated with hydrocarbons and dust. Pre-cleaning the surface will give more reproducible QCM-D results.  |
| Protocol <sup>D, E, F, G</sup>   | <ol style="list-style-type: none"> <li>1. UV/Ozone treat the sensor for 10 - 20 min.</li> <li>2. Immerse the HA-coated sensor in 99% ethanol for 30 minutes in room temperature.</li> <li>3. Rinse thoroughly with milliQ water.</li> <li>4. Dry with nitrogen gas.</li> <li>5. UV/Ozone treat the sensor for 10 - 20 min.</li> </ol> |
| Usage                            | QSensors are intended for one-time use only.  |
| Shelf Life                       | Stable at least 12 months from package date in unopened package, see expiry date on package.  |
| Storage                          | The sensor is delivered in inert atmosphere. Store in a cool, dry place out of light.   |
| Chemical compatibility           | Sensitive to acidic conditions. Do not use with solutions with a pH below pH 5.5. There is no guarantee that the coating will be stable under all experimental conditions.  |
| Additional information           | Ultrasonic cleaning should never be used. Surfactants should not be used.   |

Specifications may be subject to change without notice.

A - The chemical composition was confirmed by elemental analysis.

B - Ref. AFM.

C - Sensor oscillates/works at 250 °C in air. Temperatures above 250 °C have not been tested. Note that ambient environment may influence coating behavior. Theoretically, the quartz and the Au coating withstand temperatures up to 573 °C where the quartz undergoes a phase transition altering its piezoelectric properties. The adhesion layers, the electrode and coating materials will migrate with time, and the migration rate is affected by temperature and time.

D - The suggested pre-cleaning protocols for the sensors are not harmful to the sensor coatings themselves. If the protocols are used for cleaning the sensor after a measurement, note that there is no guarantee that materials adsorbed onto the coatings are removed.

E - Please see QSense "Instrument care and sensor pre-cleaning" for more info.

F - Due to the sensitive nature of the coating, the sensor can/should only be regenerated 1-2 times.

G - QSense and Promimic