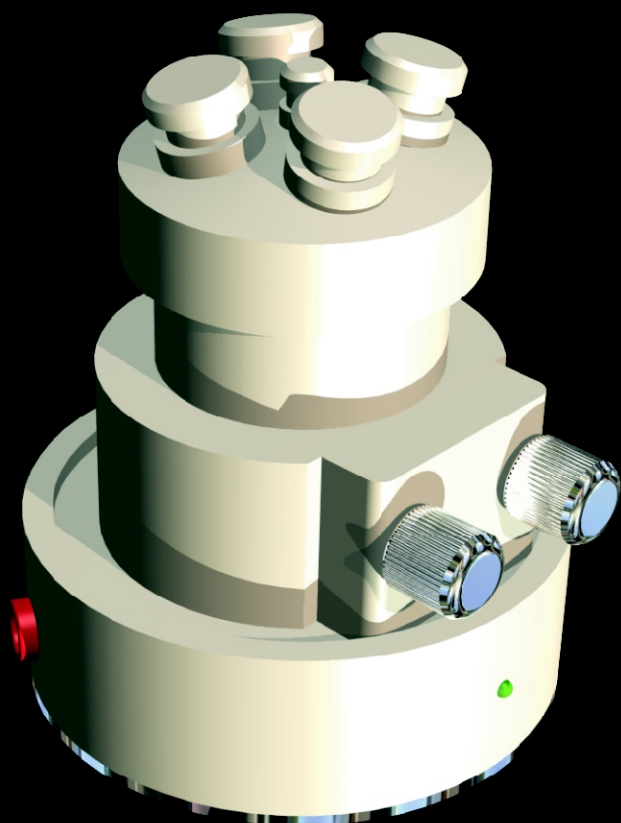


# EUREKA



Released on 04/03/2013



## *Instrument Description*

Eureka is the first nanogravimetric measurement instrument (QCM = Quartz Crystal Microbalance) self powered only by the PC USB port, it is a light, reliable and extremely compact device, designed according to the new frontiers of microelectronics.

To work with Eureka it is enough to connect it to an USB port of your PC and to install the user friendly acquisition software working under Windows™ environment, then the first experiments can be carried out in a short time, without the need to connect numerous cables and without reading complicated user manuals.

Eureka, if connected to a mobile PC, allows to carry out countless experiments, in places without an electrical network, for example you can carry out experiments outside of your laboratory, or in wide areas with a total freedom of movements

## *Eureka Capability*

It's possible to carry out measurements both in liquid as in gaseous phase, by using a measurement chamber purposely designed for this kind of analysis. Moreover BioAge is able to design and personalize chambers with different volumes, dimensions and materials to fit your specific needs.

For the measurements in liquid phase Eureka is equipped with an external socket which supplies an electrical connection to the quartz electrode in contact with the liquid sample, this solution allows you to use of quartz electrode as Working Electrode (WE) in an electrochemical system, therefore Eureka can work as an EQCM when is connected to a potentiostat, to carry out at the same time electrochemical and nanogravimetric measurements.

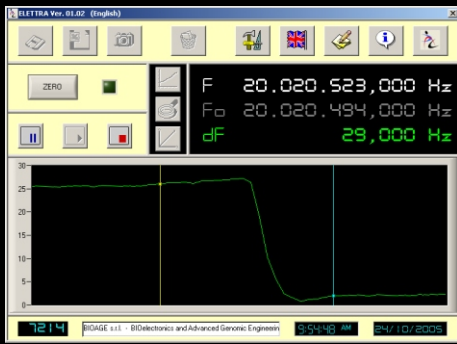
Eureka is a very versatile instrument, because the measure range of frequency can range from 0 to 50Mhz, according to the quartz crystal used.

## *Main Features*

- ✓ Ultra sensitive mass sensor
- ✓ Extremely easy to use
- ✓ User friendly software interface
- ✓ Many application fields
- ✓ QCM & EQCM capability
- ✓ Potentiostat compatibility
- ✓ Static & flow cells available
- ✓ Cells for liquids and gases
- ✓ Powered only by a USB PC port
- ✓ Two years warranty
- ✓ USB 1.1 & USB 2.0 compatible
- ✓ Win 98 / 98SE / 2000 / ME / XP
- ✓ 0 Mhz to 50 Mhz input frequency
- ✓ 2.5ppm stability (-30+70°C)



**B**ioAge is always ready to help you in your research activities, supplying custom solutions (for example: custom measurement chambers) and all the spare parts and optional you need at extremely competitive prices. This is a unique opportunity to acquire a reliable, versatile and innovative product, the only one in the worldwide panorama.



An example of software acquisition

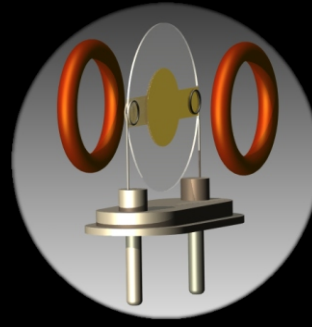
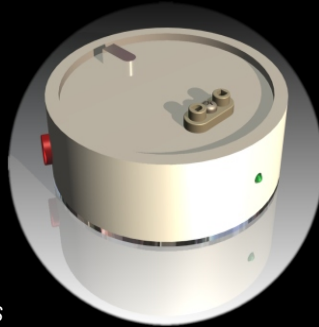
The user friendly Eureka software, running under Microsoft Windows, allows:

- To export the experiment data as a numerical file
- To save the experiment graph as a Bitmap image
- To create an Excel file, with many tables and graphs only by pressing a button

The main feature of Eureka is its simplicity to use, in fact to use Eureka for the first time you need only to install its software, to connect the Eureka instrument to a PC using only the USB cable and to insert a quartz crystal into its measurement chamber, then you can start to use Eureka

for the first time only after few minutes, without having to read complex instruction manuals, without connecting several cables and without the need of an external power supply, for this reason you will employ your time only to carry out your measurements and experiments

Eureka consists of a base containing the measurement electronics, on this base is possible to insert a measurement chamber housing a quartz crystal. A static or a flow through chamber can be used to work with gases or liquids. The standard cell is static for liquids



The quartz crystal insertion and removal is an extremely easy and quick procedure for all our chambers, no adhesive is required to seal the quartz crystal, thanks to the use of two O-ring seals, then it is possible to reuse the same quartz with a big time and money saving

**INSTRUMENT SPECIFICATIONS**

- Size : 90 mm (Ø) x 32 mm (H)
- Housing material : Teflon & AISI316 Stainless Steel
- Weight : 0.250 Kg
- PC port connectivity : USB 1.1 & USB 2.0
- Power consumption : < 0.5 Watt
- Frequency input channel : 1
- Frequency input range : 0 Hz to 50 Mhz<sup>(1)</sup>
- Frequency resolution : 1 Hz / < 1 Hz with software
- Delta frequency range : Any value
- Stability of internal frequency reference : 2.5 ppm over -30°C to 70°C
- Recommended warm up time (only after power-up to meet above stability specifications) : 30 minutes
- Sampling rate<sup>(2)</sup> : 1 Sample / sec  
4 Samples / sec

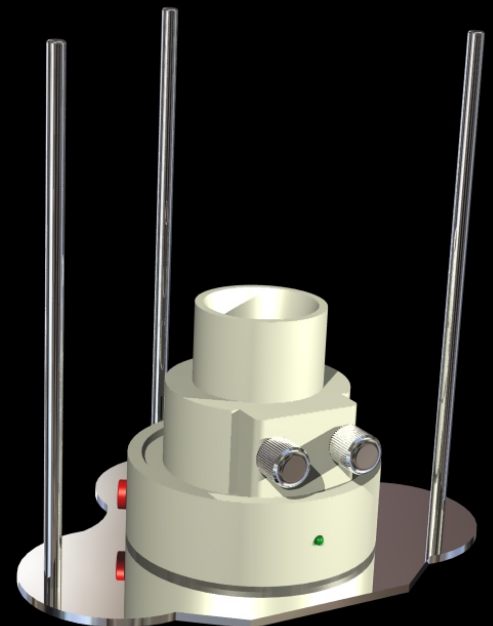
**CHAMBER SPECIFICATIONS**

- Size : 65 mm (D) x 82 mm (W) x 70 mm (H)
- Employed materials<sup>(3)</sup> : Teflon & AISI316 Stainless Steel
- Weight : 0.340 Kg
- Cell tap : Included
- Quartz diameter : 14 mm
- O-ring used : 2 pieces
- O-ring material : Silicone
- Max liquid volume allowed : 40 ml
- Min liquid volume allowed : 4 ml (needed to cover the whole quartz surface)

**SOFTWARE SPECIFICATIONS**

- Software main features : Windows™ compatible  
Data saved as numerical file  
Graph saved as Bitmap image  
Data & Graphs automatically exported in Excel program
- Windows OS : Win98 / 98SE / 2000 / ME / XP / Win7

The Eureka measurement electronic circuit has been designed according to the state of the art of microelectronics, thanks to the use of the SMD modern electronic devices it results extremely miniaturized although preserving top level performances



It is available an optional Stainless Steel base with three supports to hold the electrodes holder clamps

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(1) according on the resonant frequency of quartz crystal inserted in the measurement chamber  
(2) according to the Eureka instrument model  
(3) others materials are available

**N.B.:** According to the spirit of a continuous research and innovation, and in the interest of continuous products development, BIOAGE s.r.l. reserves the right to make improvements on the products here described at any time, without notice or obligation.