

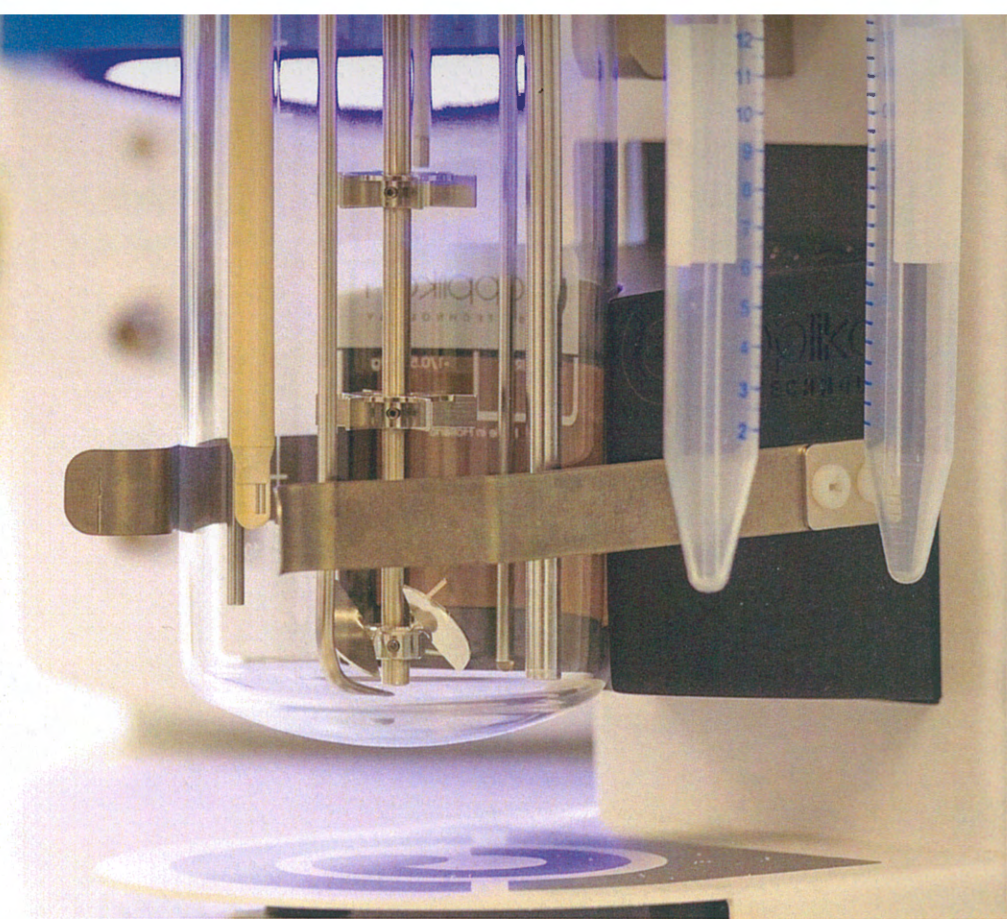
FUTURA pico

With the introduction of the
FUTURA pico system, Aber sensor technology
is now available for even smaller bioreactors.

From

ABER

TRUSTED TECHNOLOGY



ABER known and trusted for its sensors that measure live cell concentrations using capacitance technology and adopted in the world's leading bio pharmaceutical companies from R&D through to cGMP processes brings you the new **FUTURA pico**.

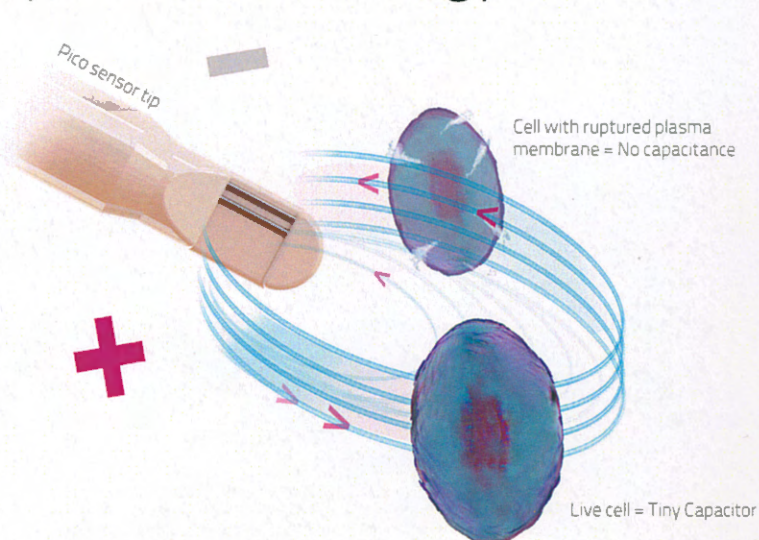
Our multi-use sensors have typically been placed in vessels from 1 litre upwards through to large scale stainless steel vessels of over 250,000litres.

With the exciting introduction of the **FUTURA pico** system, Aber sensor technology is now available in even smaller bioreactors, as used in R&D, pilot scale and parallel mini bioreactor systems typically used for DOE.

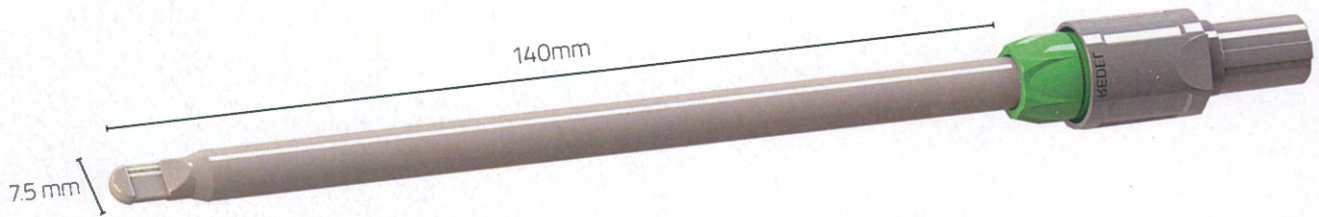
Principle of ABER's Cell capacitance Technology

Cells with Intact Plasma membranes in a fermenter can be considered to act as tiny capacitors under the influence of an electric field. The non-conducting nature of the plasma membrane allows a build up of charge.

The resulting capacitance can be measured: it is dependant upon the cell type and is directly proportional to the membrane bound volume of these viable cells.

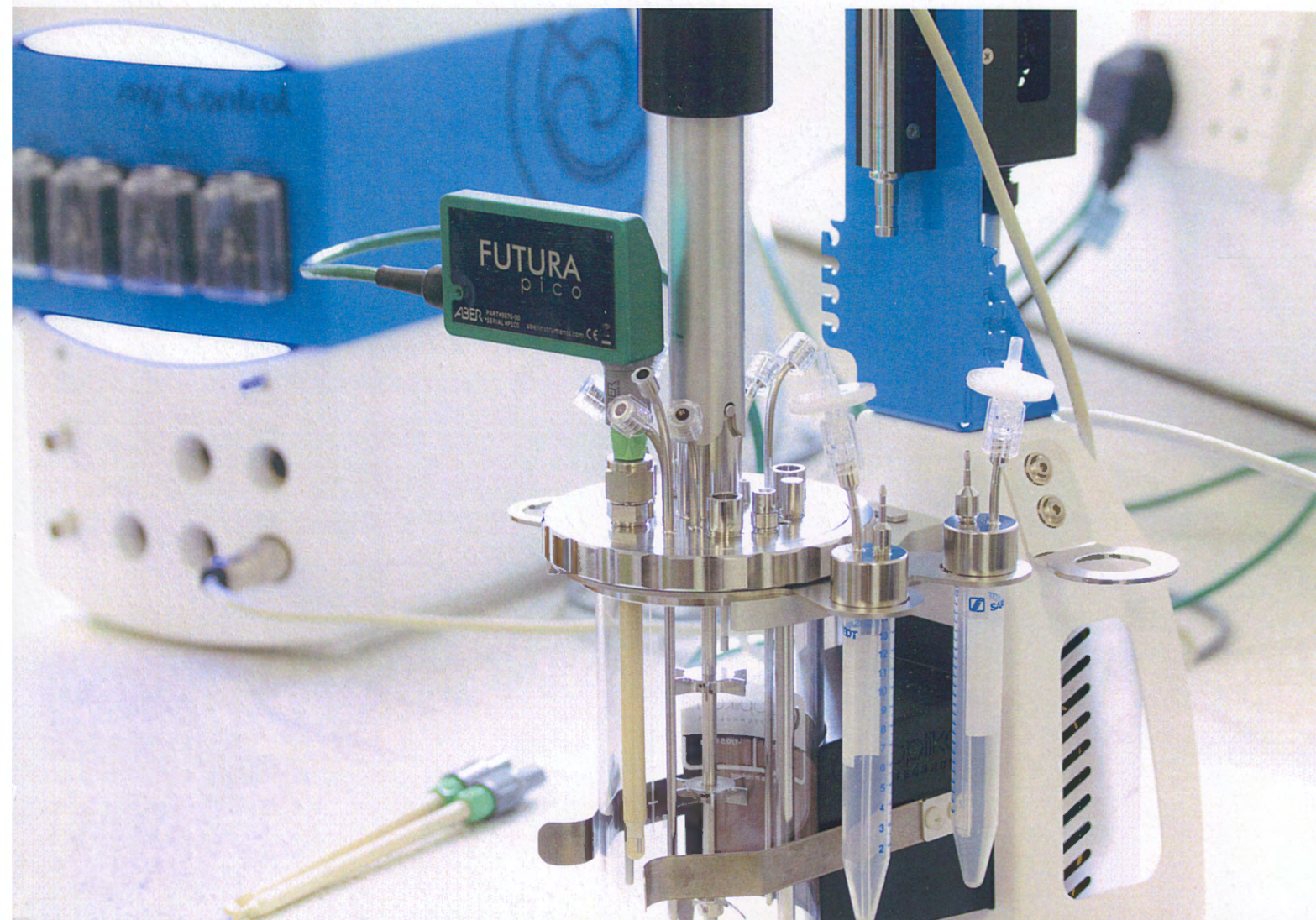
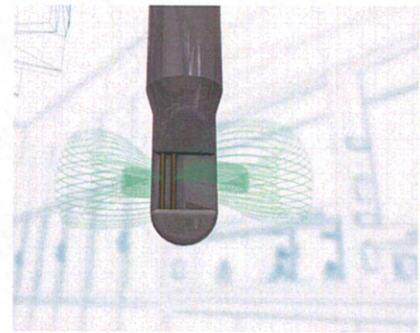


FUTURA pico



The patented design (Patent no. GB 2507283) of the sensor itself takes into consideration the smaller space available for measuring the live cell concentration and utilizes an innovative trapezoidal design with the four electrodes positioned to maximize the current path between the electrodes around the tip of the probe body.

This innovative design produces a very small field of measurement that can be placed close to other parts of the bioreactor.



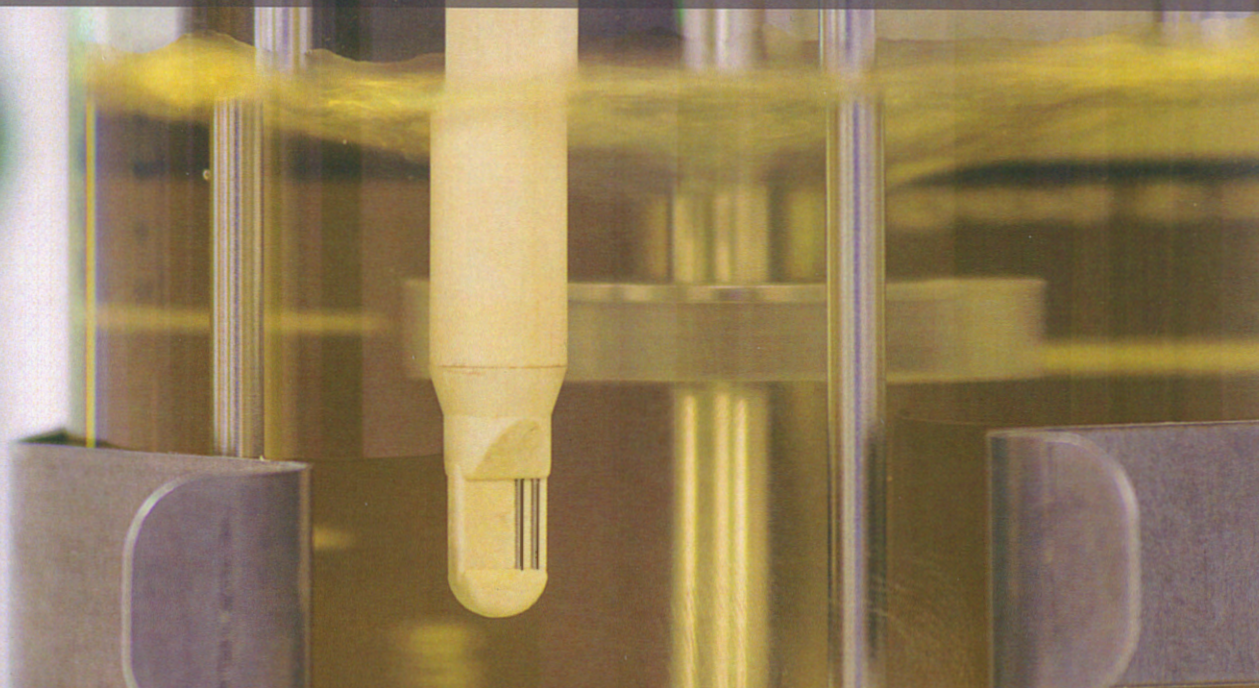
FUTURA pico

ABER's introduction of the **FUTURA pico** means that bio-capacitance technology can now be introduced earlier during the scale up process, providing key live biomass data that is comparable at all stages of process development making a seamless transition from small scale to conventional bioreactor systems possible.



The advent of Aber's **FUTURA pico** will further aid PAT processes and support the acquisition of key data to ultimately expedite time to market and return on investment for leading Biopharmas.

For further details, including a technical specification, please contact ABER via pico@aberinstruments.com or via your local ABER biotech Distributor.



ABER
TRUSTED TECHNOLOGY

ABER Instruments Inc., US Office
(650) 578-1396 (phone)

ABER Instruments Ltd., UK Office
+44(0) 1970 636 300 (phone)

www.aberinstruments.com