

RESIPHER FAQs

Topic	Answer
Does oxygen concentration or the oxygen consumption rate vary by the type of the cell?	Oxygen consumption varies dramatically depending on the type of cell. Consumption rates for certain cell type (red blood cells, fibroblasts) is extremely low (less than an attomole per second per cell), whereas consumption rates for metabolically active cells (like hepatocytes and cardiomyocytes) is several orders of magnitude higher (several hundred attomole per second per cell). This means that oxygen at the cells in a cell culture well can vary from 190 micromolar (roughly 20% O ₂) down to 10 micromolar given the same number of plated cells. In fact, stem cells as they differentiate can express extremely different oxygen consumption rates.
Does movement of the probe impact the integrity of the cells in any way?	No, movement of the probe does not impact the cells. The probe cannot come within less than 0.5 mm of the cells and typically operates about 1 mm above the cells. The diameter of the probe tip is 0.8 mm and does not impact delivery of oxygen to the cells. Also, the probe movement speed is slow enough not to materially impact mixing.
Can the system be used with standard media, standard plates?	Yes, there are no special media requirements and no reagents are added to the media. Currently several common 96-well plates have been qualified for use. These include NUNC and Falcon plates. Lucid can evaluate other plate formats upon request.
Can the lids be re-used or recycled?	While it is possible to reuse a lid it is not recommended. The lids are shipped in sterile packaging and would cross-contaminate wells from one experiment to the next. Also, the probes are fragile and there is a risk of damaging probes if the lids are over handled.
What is the longest continual test you have run for this in an incubator? Do you see any corrosion?	We have had oxygen sensor systems in incubators for multiple years, and we have run continual tests for longer than 30 days. We have not seen corrosion. There is a small amount of drift in our sensors, but as we are primarily concerned with a gradient these drifts don't impact our consumption readings.
What is the process for implementing RESIPHER in my lab?	The implementation process is simple and does not require specialized skills. Your system will be shipped directly from Lucid with full instructions for setup. In addition, Lucid

	will provide expert implementation assistance to ensure a quick and accurate setup.
How do I view the data from RESIPHER?	The RESIPHER system in your lab streams live data to the Lucid's cloud platform where it can be accessed by devices (smartphone, tablet, laptop, desktop, etc.) and users that you approve. I'm interested in RESIPHER, but want to try it in my own lab before making a commitment, is that possible? Yes. Baker / Lucid offers programs that allow you to try the solution in your own lab before making a purchase decision.
What do I have to do to prepare for the RESIPHER implementation?	RESIPHER requires a standard electrical outlet for power and an RJ45 wired ethernet connection. Lucid's hub will reside outside, but close to, the incubator or workstation and will connect via USB cables (2m long, supplied by Lucid) to RESIPHER units inside the incubator. Typically cables feed through a port in the back of the incubator.
Can I connect RESIPHER using my WiFi network?	We do not recommend using a wireless network. WiFi networks are frequently less reliable than a wired connection and can be prone to interruptions that reduce data integrity.
Is RESIPHER configurable for my specific requirements?	Yes. RESIPHER is a component-based solution which includes sensor lids, a hub and cloud management. RESIPHER sensor lids can be ordered with 4, 32 or (coming soon) 96 sensors and attach to standard NUNC and Falcon 96well cell culture plates. Lucid's hub can support up to 8 RESIPHER devices simultaneously. Lucid's web application maintains a secure Internet connection to your hub to manage data, analytics and system status.
How does Baker / Lucid charge for RESIPHER?	RESIPHER can be purchased via subscription or via hardware purchase plus maintenance. The subscription option provides for several term options: month-to-month, 2-year, 3-year, 4-year and 5-year. The subscription includes complete user, software and hardware support. The purchase plus maintenance option allows you to buy the hardware and subscribe separately for cloud software, user support and hardware support.
What is the average lead time?	The current lead time is 4 weeks.