



part of the Breeze Group

OxyStreamer

O₂ and CO₂ Controller for Live Cell Microscopy



Applications:

- Live cell microscopy
- Developmental biology
- Toxicology
- **Many more!**



Scan to read how the OxyStreamer is used in research

Live Cell Microscopy Optimization

The OxyStreamer provides two identical streams of any mix of oxygen (0.1-99.9%) and carbon dioxide gas (0.1-20.0%) without the use of premixed gas cylinders. This dual-stream functionality of the OxyStreamer can be used to condition the atmosphere in microscope cell culture incubators/chambers and the dissolved O₂ or CO₂ in media or perfusate.

Efficient Operation

Closed-loop dynamic control automatically adjusts the output stream of gas to maintain the concentration within 0.2% of setpoint. The flow rate for each stream is independently controlled to provide a reproducible and efficient delivery of gas to the cell culture chamber or diffusion into media.



www.BioSpherix.com



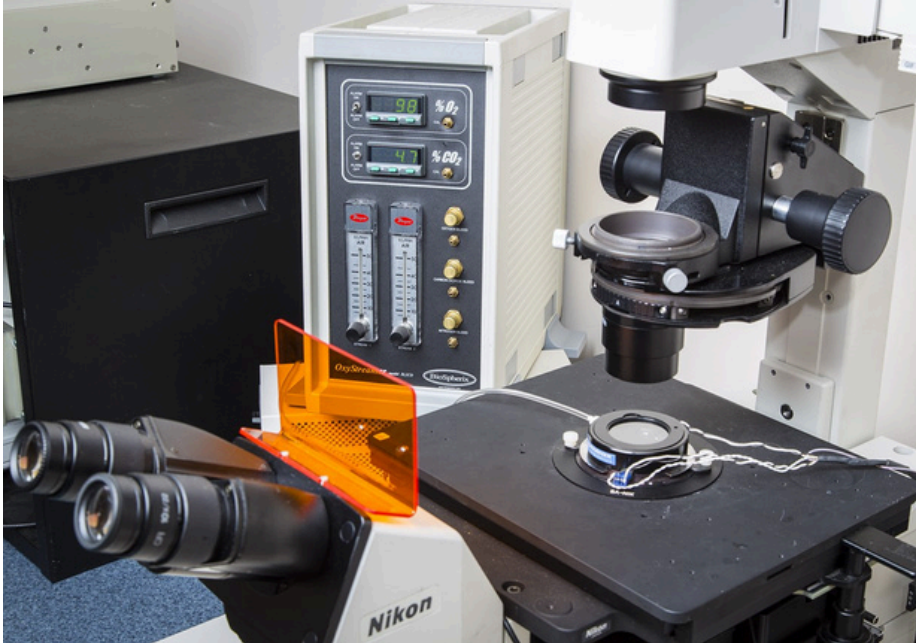
Sales@BioSpherix.com



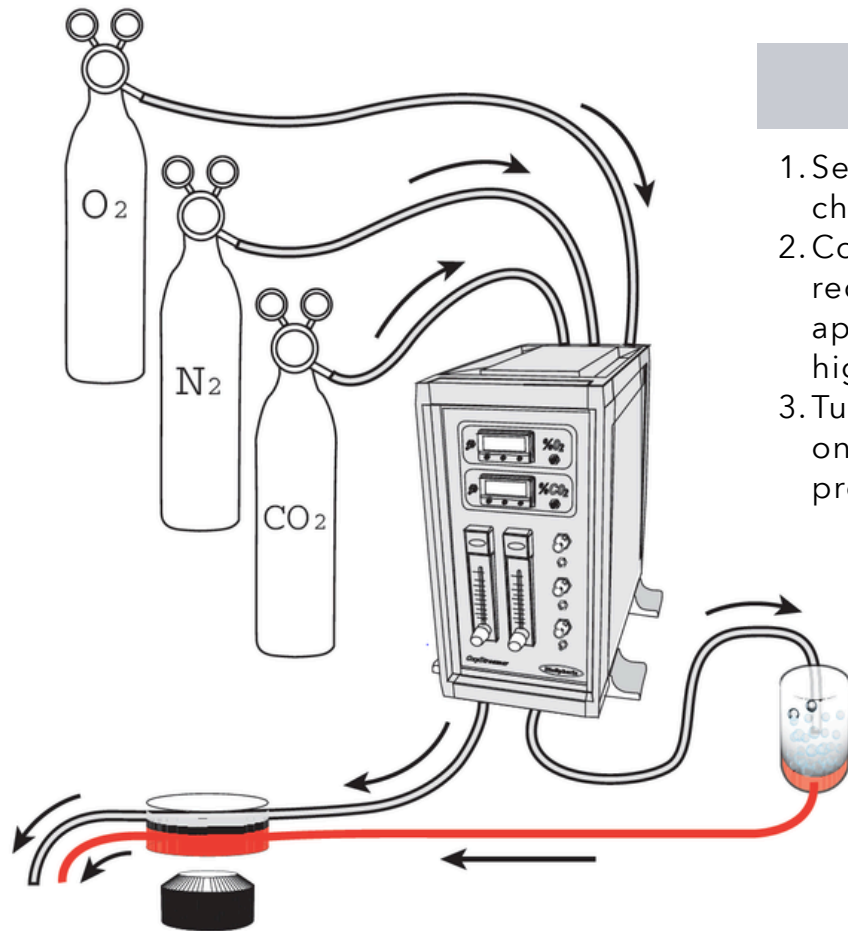
[Youtube.com/@Cytocentric](https://www.youtube.com/@Cytocentric)

OxyStreamer

The OxyStreamer is primarily used to pre-condition perfusion media and cell culture environment with specific gas combinations, eliminating the need for expensive, inflexible premixed gas mixtures.



An optional Windows®-based software package enables trend plotting, data logging, and remote operation for optimal convenience and control. Multiple OxyStreamers can be networked via an optional RS-485 interface to streamline protocols. Its vertical footprint conserves valuable bench space, while flexible programming ensures compatibility with most third-party live-cell microscopy stage chambers, including the DH035iL Culture Dish Incubators (pictured left).



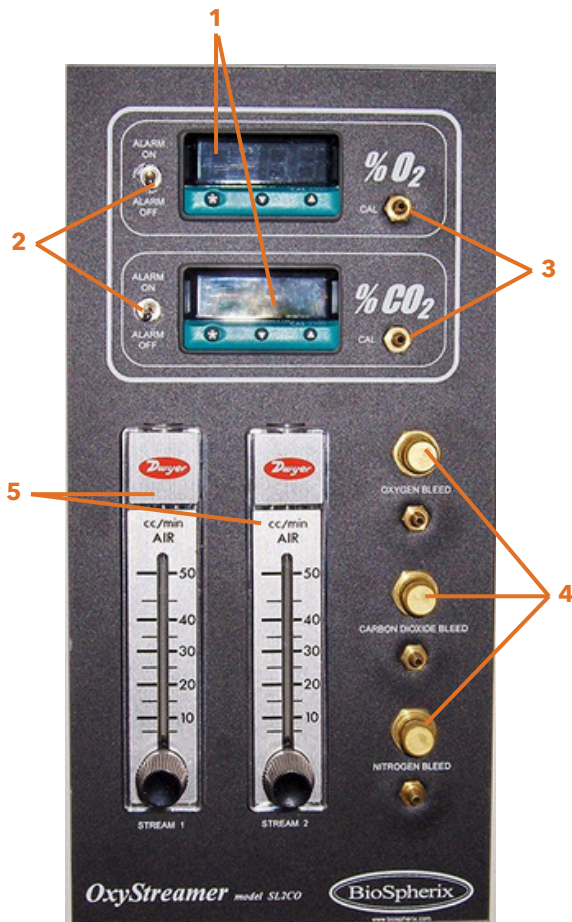
Installation

1. Set the OxyStreamer on or near host chamber and plug it in to standard outlet.
2. Connect gas supply. Compressed gas is recommended for low consumption applications, and liquid for medium to high consumption.
3. Turn on controller by flipping the switch on the front panel. Use buttons to program gas levels.



OxyStreamer

Front Panel



1. Digital Display: Continuously displays current gas level, control status, and alarm status in all chambers
2. Alarm Switch
3. Calibration Bleed Barbs: Used to calibrate sensors
4. Bleed Valves and Barbs: Bleeds gas
5. Stream Flowmeters: Adjusts flow rate of streams

Back Panel



1. Alarm Receptacle
2. RS-485 Connections: Cable attachments to computer and additional controller unit
3. DC Outlets: This port allows optional reading of sensor output voltages through a strip chart recorder
4. Gas Switch: Toggles gas flow on and off
5. Control Gas Outlet: Infusion gas supply tubing connects here for streams 1 and 2
6. Ground Stud
7. Power Connection (12VDC)
8. Supply Gas Hose Barbs: 1/4" ID tubing from gas supply



OxyStreamer

Electrical Requirements

Electrical Power: 12 VDC, 6.6AMP

Physical Specifications

Weight: 10 lbs

Controller Dimensions: 13"H x 9.3"W x 14.2"D

Gas Control

Control Range: 0.1-99.9% O₂, 0.1-20.0% CO₂

Accuracy: ±5% of reading, ±2% full scale

O₂ Analog Output: 0-100 mVDC linear

CO₂ Analog Output: 0-1 VDC linear

Alarms & Safety

Alarm Output: visible, audible

Alarm Modes: 1) process high 2) process low 3) deviation high 4) deviation low 5) deviation band

Gas Delivery Performance

Flow Control: Model SL2CO: 5-50 mL/min, SH2CO: 30-200 mL/min, custom options available

Gas Consumption: depends on 1) size and leakiness of host chamber 2) frequency and duration of chamber door openings 3) controller setpoint

Gas Supply & Compatibility

Gas Source: compressed gas tanks, liquid dewar

Gas Supply Hose Fitting: 1/4" ID hose barb

Outlet Gas Stream: 1/16" and 1/8" ID

Gas Supply Line Pressure: 0-10 PSIG

Operation Parameters

Sensor Type: fuel cell (O₂), infrared (CO₂)

Serial Communication: RS-232/RS-485

Host Sensor Humidity: 5-95%, non-condensing

Host Chamber CO₂: 0.1-20%



Visit our YouTube channel
for calibration and
installation how-to's



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