

## Product Overview

The CO<sub>2</sub>-UNIT-3L is a digital Air/CO<sub>2</sub> blender which delivers gas with an adjustable CO<sub>2</sub> concentration in the range 0-15% and an adjustable flow rate in the range 0.5-3.0 l/min.

The CO<sub>2</sub>-UNIT-3L can be employed to control CO<sub>2</sub> concentration inside any semi-sealed container whose volume does not exceed 2 liters.

The desired CO<sub>2</sub> concentration and total output flow rate is determined by controlling the flowrates of CO<sub>2</sub> and Air. The device is equipped with a CO<sub>2</sub> sensor to measure the concentration of the output gas and to provide feedback to adjust CO<sub>2</sub> and Air flow rates.

If compressed Air is not available, the CO<sub>2</sub>-UNIT-3L can be connected to OKO-AP-3L. OKO-AP-3L is an air pump with tunable flow rate in the range 0-3 l/min, powered and operated via CO<sub>2</sub>-UNIT-3L, it allows to use background Air to feed the CO<sub>2</sub>-UNIT-3L.



## Technical Specifications

### CO<sub>2</sub>-UNIT-3L

Operation mode	Adds CO <sub>2</sub> to Air
CO <sub>2</sub> Concentration Range	0-15%
CO <sub>2</sub> Accuracy	0.1%
Total Flow rate	0.5-3 NL/min
Outlet Pressure	Ambient
CO <sub>2</sub> Sensor	Non Dispersive InfraRed (NDIR) dual wave length detector
Sensors Life	10 years
In and Out Gas connectors	6 mm OD push in fittings
Input Gas	CO <sub>2</sub> at 1-2 bar, Air at 0.3-0.5 barg
Operating Temperature	0-55 °C (23 °C suggested)
Operating Humidity	0-70%
Power Consumption	37 W
Dimensions, mm	200x200x121.5
Weight	3400 g
User interface	i) OKO-TOUCH (touch screen interface); ii) DATALOG (Okolab software); iii) any third party software accessible via SDK.
Filtering device	PTFE membrane with 0.2 µm pores
SDK	Available for download through website
Sensor Calibration modes	i) Comparison with external meter ii) Span Gas
CO <sub>2</sub> sensor calibration period	1 year

## OKO-AP-3L

Flow Rate	0-3 l/min
OKO-AP-3L Dimensions	180x107x101 mm
OKO-AP-3L Weight	1100 g

## Spare Parts

Product	Spare part type	Spare part code	Frequency of replacement
CO2-UNIT-3L	Pump	CO2-UNIT-3L-2-SP-PUMP	Every 9,000 hours (~ 1year) of usage
CO2-UNIT-3L	0.2 micron filter	MPF	Every 6 months of usage
CO2-UNIT-3L	Fuses	FS1 2.5A FF FS2 1.5A FF	In case of malfunction
CO2-UNIT-3L	CO2 valve	CO2-UNIT-3L-2-SP-CO2-VALVE	In case of malfunction
CO2-UNIT-3L	Air valve	CO2-UNIT-3L-2-SP-AIR-VALVE	In case of malfunction
OKO-AP-3L (optional)	Pump	OKO-AP-3L-SP	Every 9,000 hours (~ 1year) of usage

## Laboratory Setup

Figure 1 shows a typical laboratory setup for CO<sub>2</sub>-UNIT-3L, with reference to the objects highlighted by the pointers we have: 1) Controller; 2) PTFE filter (x2); 3) TUBE A (x3); 4) Pressure Gauge for Air + regulator (scale 0.0-2.0 bar)+ assembly stirrup (x1); 5) Pressure Gauge for CO<sub>2</sub> + regulator (scale 0.0-2.0 bar)+ assembly stirrup (x1); 6) Power feeder and power cord.

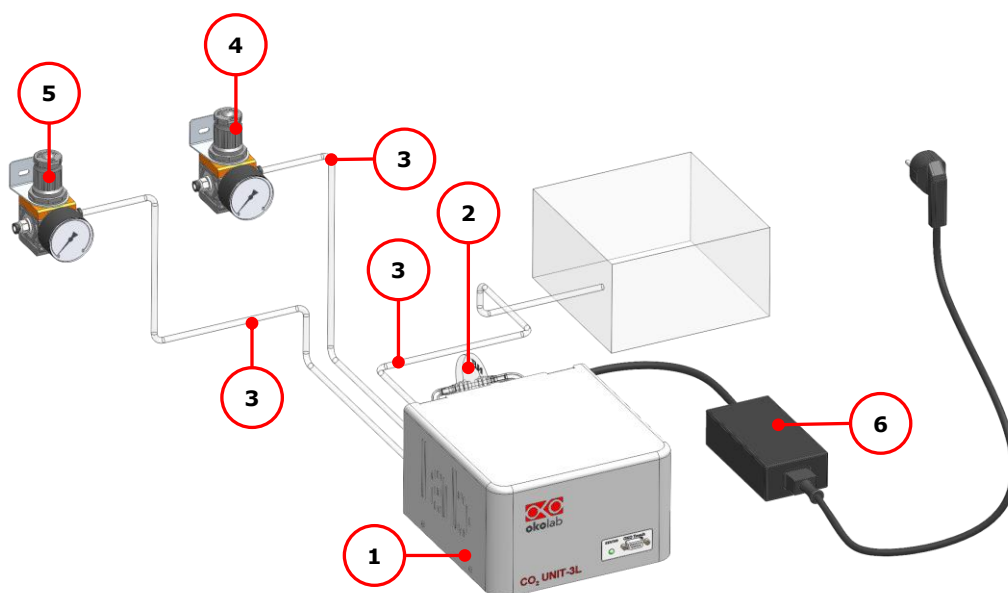


Figure 1 CO<sub>2</sub>-UNIT-3L laboratory setup.