

Tri-Gas Mixer

Control, safety,
and accuracy



The Okolab Tri-Gas Mixer

At Planer, we have been producing space-saving benchtop incubators since 2008 and appreciate the need for a reliable gas mixer so that users can be confident that their incubators have the right mix of CO₂, Air and N₂ with high levels of stability at all times. We think that the Okolab Tri Gas Mixer responds well to our demanding requirements and to those of our customers around the world.

The Tri-Gas Mixer Advantage

- Compatible with any benchtop incubator on the market, including our BT37 and CT37stax™ benchtop incubators
- Mixes CO₂, Air and N₂ to the desired concentrations
- Equipped with a mixing tank to ensure the highest composition stability
- Several incubators can be attached to a single Tri-Gas Mixer
- Incubator humidity function can still be used, when using the Tri-Gas Mixer
- Advanced safety routines, so that the incubators always receive the correct gas
- Email alarm alerts thanks to wireless and ethernet connections

Stable gas composition

The Tri-Gas Mixer is a digital CO₂-O₂ controller that mixes CO₂, Air and N₂ to the desired concentration ranging between 0-10% for both CO₂ and O₂, and at controlled pressure in the range of 0-2 barg (0-30 psig). Delivery pressure is easily regulated by adjusting the knob of the embedded pressure gauge. The device is equipped with a mixing tank to ensure the highest composition stability even when the required output flow is variable.

The Tri-Gas Mixer is compatible with any bench-top incubator available on the market. Models are available with maximum output flow rate of 1.5 L/min and 15 L/min. The actual flow rate delivered automatically adjusts to match the requirements of the connected equipment.



The Tri-Gas Mixer features

- User-friendly 4.3" touch screen interface
- On board memory for data logging
- Auto calibration with an external calibration gas
- Automatic switch to backup cylinder upon alarm
- 0-10 V or 0/4-20 mA analog output linear with the actual gas composition, for remote monitoring with an external data logger
- Contact closure alarm
- Auto diagnostic procedure

Web app allows

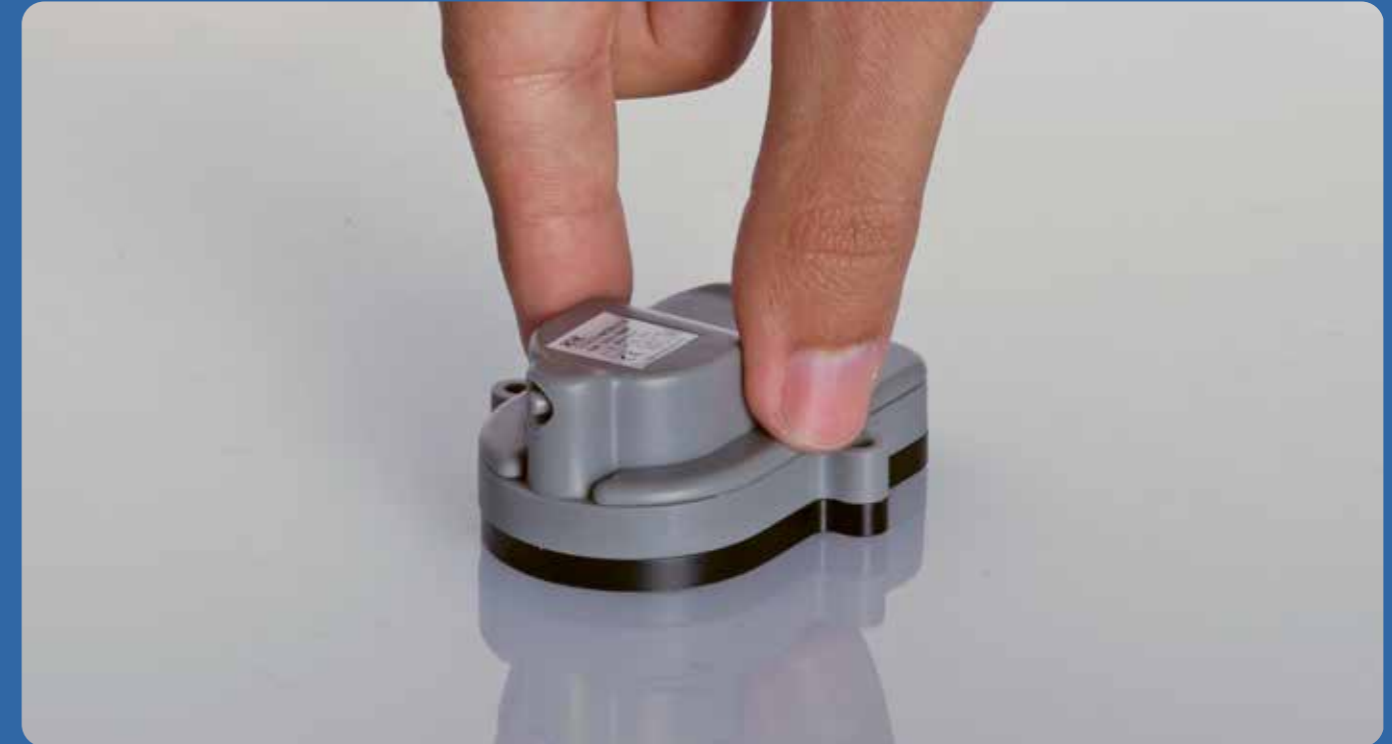
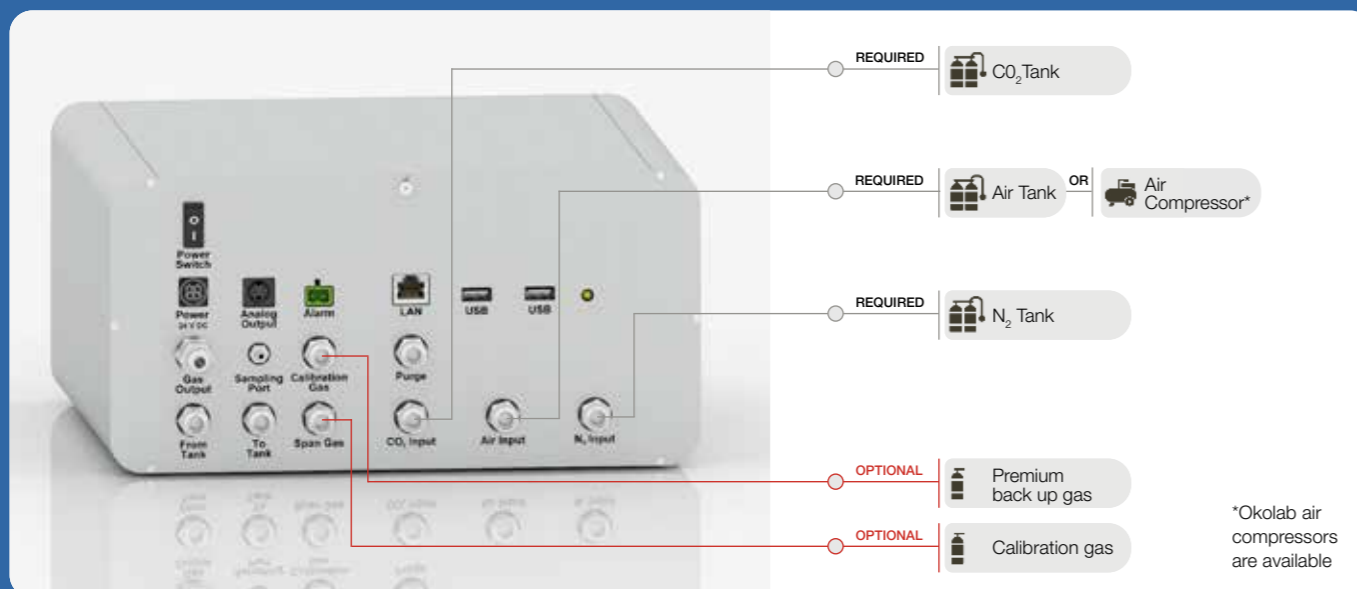
- Remote access by user password
- Alarm alert through email
- Remote data access
- Data history tables and charts



Tri-Gas Mixer 1.5



Tri-Gas Mixer 15 L



CO₂-O₂-MODULE

The Tri-Gas Mixer is equipped with a CO₂-O₂-MODULE, which contains the CO₂ and O₂ sensors. The CO₂-O₂ MODULE measures with a high degree of accuracy the CO₂-O₂ volume concentrations allowing automatic fine-tuning of the output gas.

The CO₂-O₂-MODULE is factory calibrated using certified gas cylinders, and the factory calibration certificate is included in electronic format.

Self Calibration

The Tri-Gas Mixer features the Self Calibration procedure to ensure that the incubators receive gas with the highest levels of accuracy.

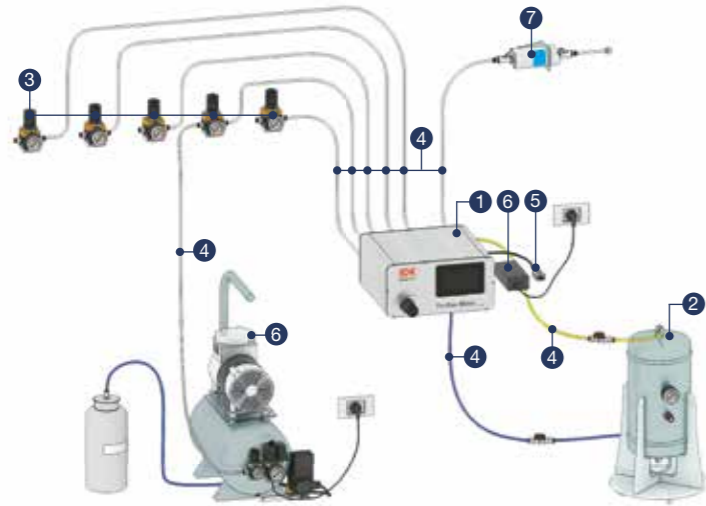
To enable the Self Calibration routines, the Tri-Gas Mixer must also be connected to a Calibration Gas with a gas concentration close to the concentration used during the standard working condition.

The Self Calibration routines run in background and periodically calibrate the CO₂ and O₂ sensors. If desired, the routines can be manually started at any time with an intuitive procedure.

Safety Features

The Tri-Gas Mixer features a range of advanced safety routines to ensure that the incubators always receive the proper gas. To enable the safety routines, the Tri-Gas Mixer must also be connected to a premixed backup cylinder containing gas of the desired concentration. Thanks to the integrated sensors, the mixer will automatically switch to the premixed backup cylinder if any of the following conditions occurs:

- Pressure in the mixing tank becomes too low (for instance due to gas requirement exceeding maximum mixer capacity).
- Pressure of any of the input gasses becomes too low.
- Target gas concentration cannot be achieved.


The Tri-Gas Mixer includes:

- 1 Tri-Gas Mixer
- 2 Mixing Tank
- 3 Pressure gauges for CO₂, N₂, Air, Pre-Mixed back-up gas and Calibration gas
- 4 Gas tubing
- 5 Analog output cable
- 6 Air compressor (optional)
- 7 VOC filter (optional)
- 8 Power supply

FEATURES	TRI-GAS MIXER 1.5 LPM	LPM TRI-GAS MIXER 15 LPM
Output maximum flow rate	1.5 L/min	15 L/min
Output pressure	0-2 barg (0-30 psig) regulated with embedded pressure gauge	
CO ₂ range	0-10%	
CO ₂ accuracy	±0.1%	
CO ₂ sensor	Non Dispersive InfraRed detector (NDIR)	
O ₂ range	0-10%	
O ₂ accuracy	±0.1%	
O ₂ sensor	Fluorescence-based optical	
CO ₂ -O ₂ -MODULE lifetime	5 years	
Air compressor	AIR-COMPRESSOR-1.5 L	AIR-COMPRESSOR-CP3-15 L
Mixer dimensions	270x140x325 mm	
Mixing tank size	5 L	40 L
Input gas	CO ₂ , N ₂ , Air @ 1.4 barg (20 psig) above output pressure**	
	Calibration Gas @ 2.0 barg (29 psig)	
	Premixed backup gas @ 0.2 barg (3 psig) above output pressure***	
Input gas connectors	Push to fit*	
Output gas connector	Stainless steel 1/4" compression tube fittings	
Switch over to backup cylinder	✓	✓
On board memory	✓	✓
Okolab CP3 app	✓	✓

* Tubes and connectors are 6 mm OD in Countries using metric system, 1/4 inch in the US and Countries using imperial system.

** Set at 2.4 barg if the output pressure is ≤ 1 barg.

*** Set at 0.2 barg above output pressure if the output pressure is ≤ 1 barg.

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