

Controller (AVCA 7 - G series)

System Specifications

The MAXtend® system is an Atmosphere system that controls the Oxygen, Carbon-dioxide and Nitrogen balance inside a refrigerated shipping container containing respiring cargo eg fruits and vegetables.

It is a One-Trip system that converts a standard refrigerated container to a Atmosphere Control container for one voyage and is removed from the container at the end of the voyage.

Basic operation concept:

Container is leak tested to ensure that leakage rate is less than cargo respiration rate.

Initial flushing with Nitrogen (and CO₂ if required) to establish starting atmosphere and then subsequently MAXtend® system will continuously adjust gas levels to maintain required setpoint by:

O₂ depletion by cargo respiration

O₂ increase by fresh air injection using valves

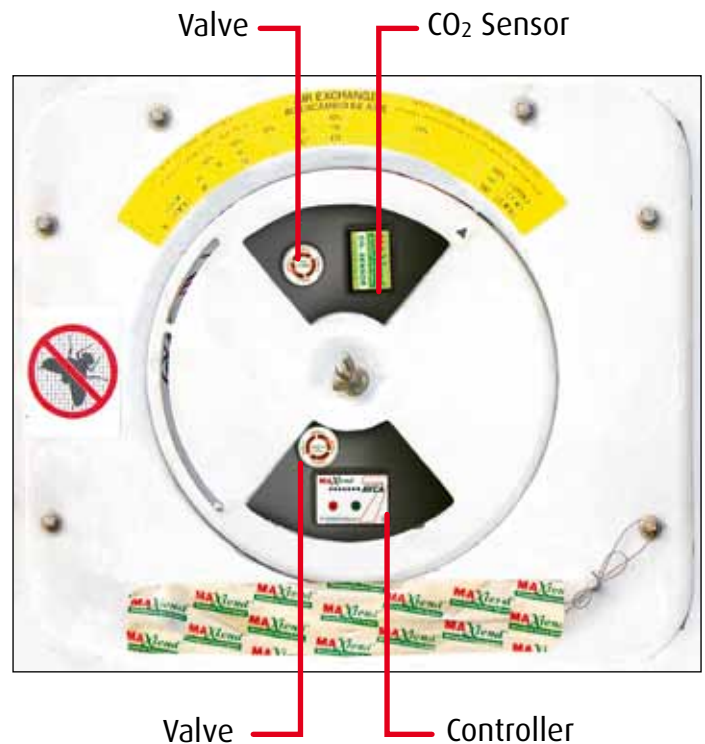
CO₂ depletion by fresh air injection using valves and additional control if required by passive (controlled absorption rate) CO₂ scrubbers

CO₂ increase by cargo respiration

System features:

- Fits a standard reefer container simplifying logistics
- Full service from MAXtend®
- No investment in special fleet or equipment required by shipping lines
- Programmable setpoint
- Download capability for O₂ and CO₂
- Controller calibrated before every voyage
- Real time clock (UTC)
- Ability to communicate with data transmission modem or display device

Location of MAXtend® Controller



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Technical Data Controller

Oxygen measurement range: 0 to 25%

Resolution: 0.1% O₂

Operating Temperature: -50°C to +50°C

Inbuilt LED visual indicator lights

RS232 communication

Datalogging:

Non-volatile datalogging, 40,000 samples

Programmable logging interval
(default is every 30 minutes)

Programmable Trip Limit:

Default is 40 days after first use after which controller will vent to ambient air

Dimensions: 82mm x 51mm x 34mm

Weight: 160 gms

Battery:

Operating voltage: 3.6 volts

Capacity: 2.4 Ahr

Life: 60 days (continuous use)

CO₂ sensor module: (COZIR)

CO₂ measurement range: 0 to 20%

Resolution: 0.5% CO₂

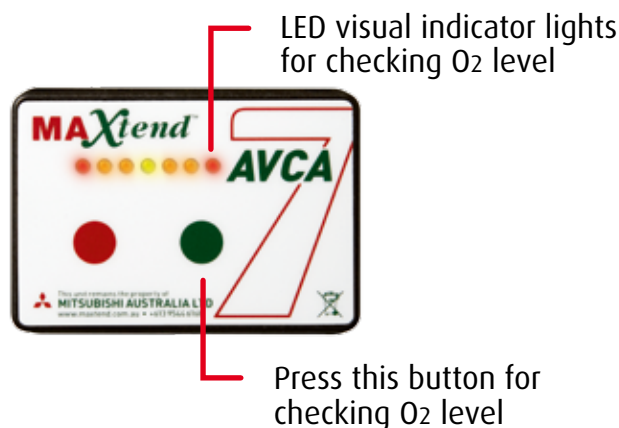
Operating temperature: 0°C to 50°C

Dimensions: 58mm x 41mm x 28mm

Weight: 80gms



Checking the O₂ level in the container



The LED gauge shows deviation from set-point. Press the Green button and check which LED lights up.

3rd right (red): >+3% deviation

2nd right (yellow): +2% deviation

1st right (yellow): +1% deviation

Centre (green): 0% deviation

1st left (yellow): -1% deviation

2nd left (yellow): -2% deviation

3rd left (red): >-3% deviation (DANGER)



CO₂ absorber (scrubber):

Active Ingredient: Hydrated Lime

Dimensions: 580mm x 390mm x 90mm

Weight: 6.5 Kg (typical)