

User Manual

Zero Calibration Kit



General

Zero Calibration Kit is used to zero calibrates carbon dioxide sensors. The unit produces carbon dioxide free air from ambient air.

Main process

Soda lime is used to absorb carbon dioxide (CO_2) in air. Carbon dioxide reacts chemically with calcium hydroxide ($\text{Ca}(\text{OH})_2$) and sodium hydroxide (NaOH) in soda lime to form calcium carbonate (CaCO_3) and sodium carbonate (Na_2CO_3). Air passed through soda lime contains much less carbon dioxide.

Note! Change cartridge if absorbing time is more than nine (9) hours.

Connect to sensor



Zero Calibration Kit connected to sensor.

Status indication

RED light: battery is charging.

RED flashing light: CO_2 absorbent cartridge needs to be replaced (in use more than 8.5 hrs).

GREEN light: pump is working.

GREEN flashing light with long pulses: unit will shut down automatically within four (4) min if operating on battery.

Unit will continue to operate if charger is used.

GREEN flashing light with short pulses: low battery level.

Technical data

Dimensions (L x W x H): 156 x 89 x 26mm
Dimensions Cartridge: L: 72.2mm Dout: 13.7mm

Gas flow out: 320–340ml/min
Can be changed by hardware (50–350ml/min)

Cartridge performance

Max. volume: 7ml (marked size: 5ml)

Absorbent power of cartridge depends on several factors (type of chemicals, packing density of chemicals, tilt of unit or suction/pressure of pump).

Min. operation time: 8.5 hours, tested with soda lime from Scarlau.

Note! After replaced CO₂ absorbent cartridge, Zero Calibration Kit should be in operation about five (5) min to stabilise cartridge.

Battery performance

Type: Li Ion HHS-LIR103450-1702 7.2V, 2350mAh, 16.9Wh
Art. No. 110-00005
Charging time: 3 hours.

Normal operation time: 15 hours (then low battery alarm activates).

Maintenance

Cartridge

Note! After replaced CO₂ absorbent cartridge, Zero Calibration Kit should be in operation about 5 min to stabilise cartridge.

Battery

Charging time: 3 hours.

Zero Calibration Kit in standby mode: battery should be charged once every month when required. Before longer storage, battery should only be charged to about 60%, 2.25? hours charging time.

High storage temperatures or frequent cycles of discharges and charges may shorten battery life. Recommended storage temperature: ≤15°C

Spare parts:

Filters item No. 200230

CE

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