

Most **oxygen** patients require at least 400 ml/min which is usually a setting of 2 or 3 on most POCs. Adopt advanced physical theory (PSA) to separate oxygen and nitrogen in air. At the same time filter the bad substance in air, so as to get pure oxygen for medical use.

Should be easy to build/construct, easily available raw materials, low cost.

Operations: easy to operate with mechanical buttons (no touch screen etc).

**Specifications:** (based on most used in C19 CCC setups)

- Capacity: Oxygen Concentrator 5L & 10L
- Oxygen flow : 0.4 – 5 LPM
- Oxygen Concentration: 93% ± 3%
- Output Pressure: 0.05 – 0.07 Mpa
- Pressure Relief Valve: 40 psi ± 5 psi (276 kPa ± 34.5 kPa)
- Optional: Nebulizer, double flow
- Alarms
  - Low Oxygen concentration alarm,
  - pressure fault alarm,
  - Power failure alarm,
  - Compressor fault alarm & auto cut off at high temperature
- Functions:
  - LCD screen for display
    - Total work hour display,
    - Oxygen display
  - Power LED ON Green and RED when battery LOW. Blink when battery drops below 70%.
  - Built in Oximeter to monitor real time SPO2
- Operating power source – battery pack detachable with >2hrs operating time per charge of 2-3 hrs.

- External charger
  - Power Supply input: AC 220V  $\pm$  22V/50Hz
  - plug type D - three round pins in a triangular pattern OR plug type M which also has three round pins based on total power input of 5A/15A.
  - Charging time between 3-4hrs.
  - Power Consumption: <320 W
- Net weight: < 15Kgs
- Preferred Dimensions (LxWxH) : 40 x 30 x 60 cm
- Equip Classification and Type : Class II, Type BF
- Operating Temp: 5°C – 40°C
- Operating Altitude: 0-2000 M (0-6561 ft.)
- Operation noise level : as low as possible, about 43dB(A)
- Storage Conditions:
  - Temperature - 20°C to 55°C,
  - Humidity  $\leq$ 90%,
  - Atmospheric pressure 12.5 psi ~ 15.4psi (86kPa ~ 106 kPa)
- Operating life minimum: >10000 hours
- Mechanicals: Preferably on Wheels, sleek and portable
- Accessories: Humidifier bottle, Nasal canula with extension tubing.

Reference:

[Oxygen Concentrator.pdf - Ministry of Home Affairs](#)