CleanSpace respirators use an internal Lithium-ion Polyer Battery. This battery is fully rechargeable and contained within the Power Unit. Lithium-ion batteries are widely used in portable electronic devices across many different industries including mobile phones.

CleanSpace batteries have a fast charge from flat to fully charged in just over 2 hours and can receive short (top up) charges with negligible effect on battery life. This allows for long operating times on one power unit.

BATTERY CAPACITY

CleanSpace Battery Capacity: 20.54Wh (11.1V, 1850mAh)

The optimal performance for a Lithium-ion rechargeable battery is dependant on use and storage conditions.*

Providing user battery management is in line with CleanSpace guidelines, the batteries can provide optimal performance for up to 5 years. After this, operating run times will reduce over time and more frequent charging will be required.

****See below for optimal use and storage conditions.***

BATTERY CHARGE INDICATOR

A Battery Charge Indicator is located on the keypad of all CleanSpace respirators.


CleanSpace HALO

CleanSpace 2

CleanSpace ULTRA

CleanSpace EX

When placed on charge, 3 solid green lights indicate the battery is fully charged.

The table below shows the expected battery charge as a percentage and as approximate run time remaining.

BATTERY CHARGE INDICATION	BATTERY CHARGE (%)	APPROXIMATE USEFUL TIME REMAINING (HRS)
3 Green Lights*	80 – 100 %	Up to 8 hrs
2 Green Lights	50 – 80 %	4 – 6 hrs
1 Green Light	20 – 50 %	1 – 4 hrs
No Lights	< 20 %	≤ 1 hr
Alarm + No Lights	< 3 %	5 – 15 mins

Note: Battery operating time is affected by breathing and work rate and actual operating times may vary. Operating times quoted in the table above are average durations at moderate work rates.

LOW BATTERY ALARM

All CleanSpace respirators incorporate an audible alarm to alert the user when the battery is approaching low charge.

The low battery alarm volume is 75dB(A) at ear and consists of 3 beeps repeated once per second. The low battery alarm will sound when the battery reaches 5 - 15 minutes of useful battery life remaining.

If the low battery alarm sounds, leave the contaminated area immediately and re-charge the battery.

BATTERY CHARGING CONSIDERATIONS

- The respirator should not be worn whilst being charged.
- Only CleanSpace specified chargers are to be used to charge CleanSpace respirators. Use of other chargers may invalidate the warranty.
- CleanSpace batteries can receive short (top up) charges.
- There is no requirement to fully discharge the battery before re-charging.

STEPS TO CHARGE THE BATTERY

1. Locate the charging port on underside of Power Unit.
2. Insert charger cable connector into charging port.
3. Ensure the charger is plugged into a power socket.
4. Charging is indicated by at least one green flashing light on the Battery Charge Indicator.
5. When fully charged 3 solid green lights will display on the Battery Charge Indicator.
6. Once charged, disconnect charger cable from the charging port before use.

RECOMMENDED USE CONDITIONS

- Temperature: -10˚C to 45˚C (14˚F to 113˚F)

RECOMMENDED STORAGE CONDITIONS

- Dry environment (Relative Humidity below 75%).
- Temperature: 15°C to 35°C (59°F to 95°F).
- Away from direct sunlight and dust.

Battery life is dependent on use (number of cycles) and the storage temperature. High temperatures (over 35°C / 95°F) accelerate battery aging.

Storage on charge: If the Power Unit is left continually on charge, there is minimal battery degradation.

Storage off charge: For optimal battery performance, battery manufacturers recommend the battery be regularly cycled (optimally, every 3 months). When stored off charge it is recommended to fully charge the battery every 3 months.

WARNINGS:

The following precautions should be followed to ensure the best battery performance, life, reliability, and safety.

- Avoid mechanical shocks or impacts to the Power Unit, this includes penetration of sharp or hard objects.
- CleanSpace respirators will not function at internal temperatures above 60°C (140°F).
- Do not immerse or soak the Power Unit.
- Do not dispose of the Power Unit in fire.
- Do not disassemble the Power Unit case. There are no user serviceable parts inside. Dissembling the Power Unit case will void the manufacturer's warranty.
- Do not use the CleanSpace Respirator if there are any signs of severe mechanical damage in the Power Unit.