



OXFORD, ENGLAND

POWERCAP[®] ACTIVE[™] POWERED RESPIRATOR UNIT



POWERCAP[®]
Active[™]

EN 12941:1998
RESPIRATORY PROTECTION DEVICE -
POWERED FILTERING DEVICE INCORPORATING
A HELMET OR A HOOD. CLASS TH1 DEVICE

IMPORTANT - This manual must be read
and fully understood before any product
from the PowerCap[®] Range is used.
This manual must be retained for future reference.

1. UNPACKING AND INSPECTION: The following items should all be within the carton:

Item	PowerCap Active™ Lite	PowerCap Active™ IP
Cap c/w rigid Impact-Liner	✓	✓
PowerCap Active Drive Unit	✓	✓
1mm Polycarbonate Visor	✓	✓
0.35mm Polycarbonate Visor	✓	✓
PowerBox Battery Pack	✓	✓
PowerStation Charging Dock	✓	✓
Intelligent Li-Ion charger	✓	✓
Airflow Test Unit	✓	✓



Note: PowerCap Active also provides protection to EN 812:1997 – A1:2001, the BumpCap standard.

It should be noted that the special liner for this protection forms an integral part of the cap structure. Ensure that the "HardCap-A1+" liner is fitted into the Cap before use.

2. STORAGE: When not in use or during transportation, PowerCap Active should be stored in the packaging in which it was supplied. PowerCap Active should be stored away from direct sunlight, not in contact with solvents and in such a manner that it cannot be damaged by physical contact with hard surfaces. Storage temperature should be between 5°C and 40°C and relative humidity not greater than 75%. During storage, the PowerCable should be disconnected from the PowerBox battery pack.

3. BEFORE USE: PowerCap Active uses JSP's PowerBox battery system. The batteries will come supplied with some residual charge present. The unit should be run until the batteries are fully exhausted. The battery has over discharge protection and will cut out when exhausted and then a full 16 hour charge should be applied. An 8 hour (overnight) charge will produce 8 hours of run time from PowerCap Active. The charger socket is located on rear of the PowerStation charging dock.

- The The Battery can be charged whilst still attached to the Cap.
- The Battery can be charged whilst separated from the Cap.
- Spare PowerBox batteries are available from JSP Ltd or its distributors.

Charging the batteries: On receipt of the unit, run the battery flat and charge for 16 hours to reach maximum capacity. Follow on charging cycles should then take 8 hours. If the unit is run completely flat or the unit has not been used for a long period it would be advisable to repeat the 8-16hr charge cycle. A reduced charging time will reduce the time that PowerCap will operate at its intended flow rate. The charger transformer has an LED on it and the LED will show red while charging and green when fully charged. The battery has over-charge protection and will not be damaged by being on charge for longer than 8 hours.



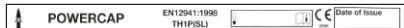
4. USING POWER CAP: Unit: The PowerCap meets the TH1P requirements of EN12941:1998 this offers protection against fine non-toxic fibres, humidity and dusts. Operating temperature should be between 5°C and 40°C and relative humidity not greater than 75%.

Filters: The filters provided are high efficiency sub-micron particulate types supplied in pairs. They will filter most particulate matter such as dust, spores, mist and fumes, but like all filters cannot filter out all particulate matter present in the air. They will not filter gases, vapours or toxic substances.

- The duration of filter life will depend mainly on the amount and size of the contamination in the area where they are used, and the time used in that area. Inspect the filters regularly. Ensure that they are located correctly and carefully remove any visible large surface contamination to prolong their life. The filters must not be washed or allowed to get wet. A low airflow reading (red section of indicator) usually indicates that new filters are required.

Fitting and replacing the filters: Only replace with a pair of genuine replacement filters supplied in pairs from JSP Ltd or its distributors.

Filters are marked as per this example image:



Simply twist anticlockwise, with filter towards you, and lift away from motor housing. Replacement is the reverse procedure. Ensure that the filter and motor housing mating faces are clean; do not allow any dust or foreign objects to fall into the motor housing. Push and twist the replacements firmly into place. Recheck airflow when the new filters have been fitted before use. If the filters are not fitted correctly, filtering efficiency will be severely reduced.



Removal



Replacement

Battery and Airflow Check: PowerCap Active has a Minimum Design Flow rate of 140 l/min. To check battery charge and airflow the filters must be fitted and the visor removed (see 'removing/fitting the visor').

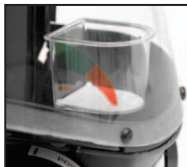
- Having removed the visor insert the male connector at the end of the PowerCap Active "PowerCable" into the female connector on the PowerBox battery compartment.
- Switch the unit on using the switch located on the PowerBox battery unit. Airflow will now commence. It is now necessary to check that the airflow is sufficient, and the following checks should be carried out on a regular basis with the filters fitted and always before use of PowerCap Active:-



b.1. Invert (turn upside down) the PowerCap Active and fit the Airflow Indicator supplied over the air outlet inside the rim of the Visor Carrier ensuring a good seal. Avoid placing hands or other possible obstructions over the two filter inlets.

b.2. The "flap" indicator within the airflow device should move into the "green section" which means that there is adequate airflow for PowerCap to be used.

b.3. In the event of no flow or low flow indicated by a move of the flap into the "red section", first recheck that battery fitting or charging condition. In the event that there is still no or low airflow, do not use the PowerCap, but contact JSP Ltd for further advice.

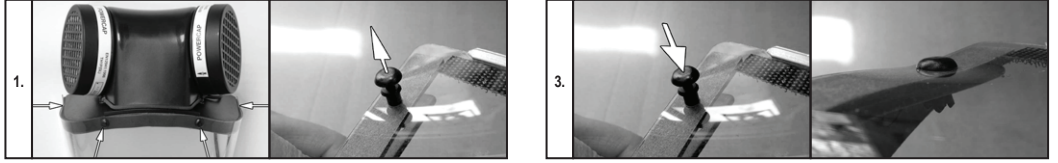


Fitting the visor - PowerCap Active Lite:

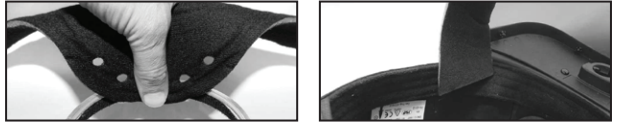
1. Remove the old visor by peeling it away from the Velcro™ sections on the inside of the brim.
2. Align the Velcro™ sections on the visor with the Velcro™ sections on the inside of the brim, ensuring that the visor is firm against the underside of the brim.

Fitting the visor - PowerCap Active IP:

1. Remove the old visor by first pulling out the central pin of all four push-rivets around the carrier and then removing the outer sleeves.
2. Peel back the protective film from along the top edge of both sides of the new visor. (NOTE: To prevent fingerprints on the visor, leave the rest of the film in place).
3. Using the new rivets supplied, attach the left hand side of the visor to the left hand side of the visor carrier. Ensuring the rivet has passed through both sides of the carrier.
4. Repeat the above procedure for all the four rivets around the visor carrier, some manipulation of the visor may be necessary to achieve a tight seal around the upper edge of the visor.
5. Finally remove the rest of the protective film and re-attach the foam skirt to the Velcro strips.



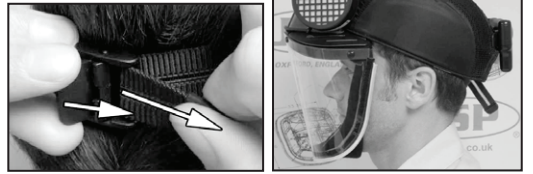
Fitting Faceseal Skirt: The skirt is attached to the side of the visor and tucks inside the edge of the cap. The edge of the skirt should be pressed against the Velcro™ strip down the edge of the visor. The skirt should look as shown in the pictures when correctly fitted.



Fitting: With sufficient airflow checked as described above, place PowerCap Active on the head. It is important that the edge seals on the side of the visor fit closely to the side of the face. The wearers chin should rest on the lower circular section of the Seal Skirt, bringing the sides of the seal skirt to fold in on itself.



Adjust the sizing band at the rear of the cap for a snug and firm fit on the head.



General Use: The battery pack for the PowerCap Active is designed to be mounted onto the moulded loops stitched onto the rear of the Cap.



PowerBox can easily be removed for charging or replaced with a fully charged unit to allow for extended shift patterns. Slide the PowerBox unit upwards, disengaging from the moulded loops.



When not in use the battery should be switched off and/or the plug disconnected to conserve the batteries. Avoid storage of the battery compartment in low temperature conditions, 5°C or lower, as this will have a detrimental effect on the power capacity of the batteries and could lead to "low flow" performance.

5. PARTS REPLACEMENT, CLEANING AND DAILY USE: Under normal conditions and assuming regular maintenance, the PowerCap motor unit should last for 2 - 3 years, other parts will need replacing as detailed below. Prior to use of the PowerCap Active, the user must check all components and satisfy themselves that it is suitable for use, if any parts need replacing follow instructions below.

Spare parts are available from the original retailer or by contacting the manufacturer. Replacements for all parts are available; some parts may require the unit to be returned. Always check the airflow level before use, using the airflow indicator provided.

Cleaning the Cap and Housing:

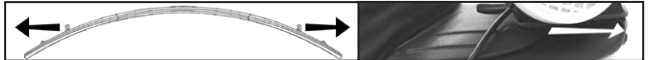
The Motor/Filter housing should be cleaned only with a lightly damp cloth and mildest detergent. Care must be exercised to avoid any liquids entering the motor/fan assembly or damaging/wetting the inside of the filters.

Changing / Washing the Cap:

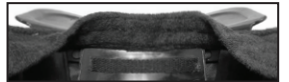
The Cap can easily be removed from the Drive-Unit whilst preserving all other parts. Unplug the PowerBox from the PowerCable. Remove PowerBox from its moulded loops. Feed the PowerCable through the channel at the side of the Cap.



Carefully spread both up-stands on the upper surface of the Visor-Carrier apart until they release the Drive Unit & Visor assembly.



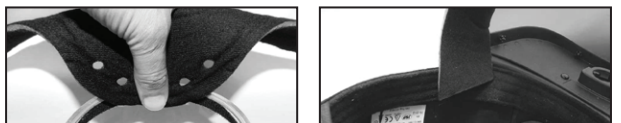
When the PowerBox, Drive Unit & Visor assembly has been removed, remove the Cap's Impact Liner by unfolding the towelling sweatband. The Cap can be machine washed at 40°C. If the Cap requires replacing, do so using only a genuine replacement supplied from JSP Ltd or its distributors. During re-assembly, ensure that the impact Liner will rest between the rear of the rigid peak and the wearers head and will be covered by the towelling sweatband.



To replace the Drive Unit & Visor assembly, reverse the above process, ensuring that neither the PowerCable nor the Seal Skirt is trapped between the Drive Unit and Cap Peak - The PowerCable stays above the peak. The Seal Skirt ends go below the peak. Ensure that the Drive Unit & Visor assembly has firmly located into the recess in the Cap peak and that the locking hooks on the Cap Peak have securely fastened onto the Drive-Unit hooks.

Changing the Faceseal Skirt:

Peel the skirt away from the Velcro around the periphery of the visor. To attach the new skirt to the cap, reverse the above process, starting with, and working outwards from the centre of the Visor and the Skirt.



6. SAFETY PRECAUTIONS:

- PowerCap Active should only be used in situations where EN 12941:TH1 and EN 812:1997 – A1:2001 apply.
- PowerCap Active does not provide protection against the effects of falling or thrown objects, or moving suspended loads.
- PowerCap Active should not be used instead of an Industrial Safety Helmet as specified in EN 397.
- The instructions inside PowerCap Active should be read and understood as well as these instructions before use.

WARNINGS!

- **THIS APPARATUS MUST NOT BE WORN WITH THE BLOWER UNIT SWITCHED OFF.**
- **WHEN SWITCHED OFF A RAPID BUILD UP OF CARBON DIOXIDE AND DEPLETION OF OXYGEN MAY OCCUR.**
- **WHEN SWITCHED OFF NO RESPIRATORY PROTECTION IS PROVIDED.**
- **THE APPARATUS SHOULD NOT BE USED IN EXPLOSIVE OR OXYGEN DEFICIENT ATMOSPHERES**
- **AT HIGH WORK RATES THE PRESSURE IN THE DEVICE MAY BECOME NEGATIVE AT PEAK INHALATION FLOW.**
- **USING THE APPARATUS IN HIGH WIND VELOCITIES MAY AFFECT FILTERING EFFICIENCY.**

PowerCap Active is not designed for use in atmospheres that are immediately hazardous to user hygiene or health, have less than 19.5% oxygen content, contain gases or toxic substances, or unknown compositions.

- DO NOT use PowerCap Active in an explosive atmosphere. • DO NOT expose PowerCap Active to flames or sparks. • DO NOT use PowerCap Active in confined spaces or areas of poor ventilation. • DO NOT alter or modify the product in any way. • DO NOT touch any moving part. • DO NOT allow water or other liquids to enter the inside of the motor housing or battery compartment.

PowerCap Active Lite: The visor is of lightweight construction and does not provide a high degree of eye protection. In situations where there is any risk to the eyes from projectiles (for example when strimming) approved type Safety Spectacles must also be worn in the normal way "within PowerCap Active", i.e. Behind the visor. The PowerCap Active airflow will help to prevent "fogging" of both the Spectacles and the Visor.

PowerCap Active IP: The visor is manufactured of Polycarbonate and has been tested according to EN166:1995, the standard for Personal eye-protection.

As required by European Health and Safety requirements, the user is advised that when in contact with the wearers skin, the unit may cause allergic reactions to susceptible individuals. If this is the case the wearer should leave the hazard area, remove the unit and seek doctor's advice.

7. GUARANTEE:

PowerCap Active is guaranteed for a period of 12 months from date of purchase against mechanical or electrical defects. The Company undertakes to exchange or repair without charge, any part to be found defective within this specified period. Alternatively and at its discretion, the Company may replace them.

This guarantee is subject to:- PowerCap Active has been used solely for the purpose for which it is intended. PowerCap Active has not been subject to misuse, accident, modification or repair.

N.B. In the event of a claim, contact the retailer from which the PowerCap Active was purchased.

This guarantee does not cover normal wear and tear. This guarantee does not affect your legal rights. This guarantee applies to the UK only.

8. BATTERY INFORMATION:

PowerCap Active Lite & Powercap Active IP:

Battery Type: Lithium-ion
2 x 3.7V 1900mah



Battery packs should be disposed of under local disposal regulations. Batteries should not be disposed of in general waste bins.

9. MARKINGS:

Mark	Meaning
EN812:1997 – A1:2001	European standard for protective Bump Caps.
EN166:1995	European standard for protective EyeWear.
EN166 1 3 B	1 = Optical Quality (high) 3 = Liquid Droplets B = Medium energy impact against high speed particles.
EN12941:1998+A2:2008	European standard for powered filtering respiratory devices.



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