



MANUAL FREE 900



PRODUCT OVERVIEW

FREE TECHNOLOGY: LESS HASSLE - MORE COMFORT

The ultralight, minimalist headband has the power cord integrated in the headband. The flat, soft and flexible cable exits at the back of the headband and lets you store the battery in a pocket or running vest. Carrying the battery in your pocket reduces the weight on your head but also increases the battery time by keeping the battery warm.

AIRFLOW TECHNOLOGY: LESS HEAT - MORE LIGHT

Cooling is essential for how well the lamp performs. The Free Airflow technology is designed together with experts within thermodynamics. The result is an optimized aluminum cooler together with a protective plastic case that provides maximum ventilation and cooling, even when standing still. This gives you great light regardless of the activity, even if the airflow or cooling conditions are not optimal.

MODULAR TECHNOLOGY: LESS COMPLEXITY – MORE FLEXIBILITY

Free 900 is primarily designed for running, but can be used for multiple activities by easily switching between different mount accessories. The battery can also be carried in multiple ways by using the different battery accessories and cables. All parts and accessories are interchangeable which means that you can complement or upgrade your lamp with a different battery, lamp unit or mount kit. The lamp unit and battery can easily be disconnected from the headband to instead be mounted on your helmet, bike bar or frame.

Visit the silvasweden.com to see all available accessories.

SILVA INTELLIGENT LIGHT

Intelligent Light optimizes the light pattern by the unique combination of a long reach spot light and a close flood light. With less head movements and a clear view of near as well as far obstacles, you gain the balance and confidence it takes to move fast and perform better.

BEFORE USE

CHARGE THE BATTERY

1. Disconnect the battery from any accessory (headband, extension cable, lamp unit).
2. Connect the battery to a USB-port (either from a computer, car or a USB charger/adaptor connected to a wall outlet) using a USB-C charge cable.
3. On the battery, there are 5 LEDs showing battery status during charging:
 - Green light (all 5 LEDs) = battery is fully charged
 - Red light blinking = battery is charging

Approximated charge time (depending on input source): See **Technical specifications**.

Note! When the battery is fully charged the charger automatically switches to maintenance mode.

Note! Never leave a battery unattended during charging.

Note! The battery can not be charged while connected to the accessories.

ADJUST THE HEADBAND

The elastic headband has a comfortable fit and is easy to adjust. It has silicone on the inside to prevent it from slipping. Adjust the headband by moving the sliding buckle to fit it onto your head. The connection interface in the front/on the cable is compatible with all lamp units/batteries in the Free series.

ATTACH THE LAMP UNIT

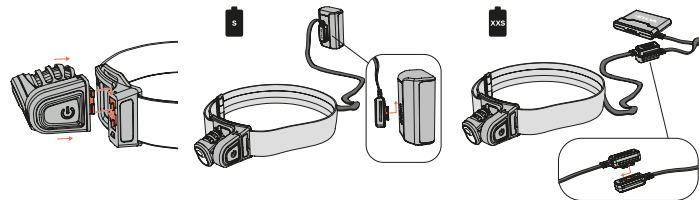
Align the white arrow on the lamp with the white arrow on the headband front bracket. Attach the lamp unit by sliding the connector part into the snap-in socket of the headband. To detach - slide the lamp unit up and out of the socket.

ATTACH THE BATTERY (S)

Align the white arrows (next to the connectors on the battery/cable). Push and slide the battery connector socket onto the connector of the cable. To detach - slide the battery up and off the connector.

ATTACH THE BATTERY (XXS)

Align the white arrows (on the connector of each cable). Push and slide the connectors together. To detach - slide and pull the connectors apart.



Note! Do not leave connected when unattended.

Note! Do not cover or place in a pocket/bag while connected - risk of fire.



Free 900 S
Art.no 38533

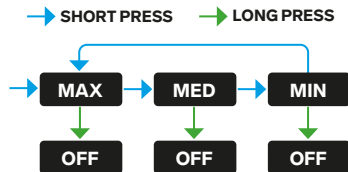
Free 900 XXS
Art.no 38531

DURING USE

SWITCH THE LAMP ON

Note! Make sure to remove the protective film from the lens before switching the lamp on. On the side of the lamp body there is a push button which controls the light modes.

- To start the lamp: press the push button with a short press (<0.5 s)
- To cycle between the different brightness levels - use short presses (<0.5 s).
- To turn the lamp OFF; press and hold button for more than 1 second.



TEMPERATURE CONTROL

The temperature of the lamp body will increase during use and cooling is an essential part of how well the lamp performs. The temperature of the lamp is affected by the brightness level, ambient air temperature and airflow (speed). The lamp unit is equipped with a temperature control sensor that prevents the lamp body from overheating by reducing the power to the LEDs.

Free airflow technology:

Keeping the LEDs cool will keep them running at higher lumen levels and to manage the heat Free is designed with the Airflow system: The electronics for the lamp is located in the lamp arm which gives a lot of space for the aluminum cooler in the lamp body. The integrated aluminum cooler has a lot of surface that will dissipate heat away from the LEDs. When performing high speed activities, such as running or biking, the Airflow system optimizes the natural airflow to get the temperature down. The cooler on the Free series is constructed to be efficient even at lower speeds where there is no airflow. The lamp body is covered in a plastic mesh for a comfortable touch without having to feel the heat of the cooler inside. The main gain with the optimal cooling is that you get more light output from a cooler lamp.

Why does the light dim down for no apparent reason?

If the cooling is not sufficient, for instance if used while standing still, indoors or in high temperatures, then the light will automatically be reduced until acceptable surface temperature on the lamp body is reached. This means that the lower the ambient temperature, the stronger the light output.

Note! The lamp can get very hot!

- Always make sure to disconnect the battery when the lamp is stored in a closed compartment such as in a bag, pocket or similar.
- Be careful when handling the lamp unit with bare hands since it gets very hot. Do not touch the lens.
- Keep away from children.
- Make sure that the lamp does not come in contact with sensible of flammable materials.
- The front glass or heat sink must not be covered with dirt or other materials while the lamp is switched on.
- Never look directly into the lamp while switched on.

LOW BATTERY WARNING

During operation, there will be a low battery warning when 10% of the battery energy remains. This is indicated by the lamp flashing once. The lamp will automatically switch to **power reserve mode** after this.

POWER RESERVE

During operation, the lamp will go into reserve mode (80 lm) when 10% of the battery energy remains. The lamp will flash once before it goes into this mode. It is not possible to switch to the higher brightness levels once the lamp has entered power reserve mode, unless you switch the lamp OFF and then ON again. The power reserve gives at least 1 hour of light (varies, depending on which battery you use).

BATTERY STATUS INDICATION

When the lamp is switched on - the LED indicators on the battery will show the current battery status for 4 seconds. To check battery status during use, the lamp needs to be switched OFF and then back ON again.

The LED indicators on the battery indicates the following:

- 5 green LEDs = Fully charged
- 4 green LEDs = 80% of the battery remains
- 3 green LEDs = 60% of the battery remains
- 2 green LEDs = 40% of the battery remains
- 1 green LED = 20% of the battery remains
- 1 red LED = 10% of the battery remains

To get as much power as possible out from your battery, keep it away from low temperatures during use.



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AFTER USE

MAINTENANCE

To make sure you get maximum performance from your lamp, clean it regularly with a damp cloth. Make sure that there is no dirt in the heat sink or on the front glass.

TECHNICAL SPECIFICATIONS

Lumen / Burn time / Light distance: See matrix below
Weight (lamp unit + headband): 95 g
Battery S: Li-ion 24.1 Wh / 3.35 Ah / 7.2 V / 149 g / 4.5 h charging
Battery XXS: Li-ion 11.1 Wh / 1.5 Ah / 7.4 V / 96 g / 3 h charging
Water resistance: IPX5
Operative temperature range: -20 - (+)50°C
Storage temperature range: -20 - (+)35°C

PERFORMANCE DATA



Values are measured and specified according to the ANSI FL1 STANDARD.

Lumen and burn time values are measured for normal usage. The burn time is affected by speed (airflow) and the ambient air temperature and may vary in different conditions. The burn time is therefore presented as a span between the lowest and highest value achieved in different conditions.

For more information on how different factors affect the burn time and light output; have a look at our headlamp guide at: www.silvasweden.com.

FREE SERIES				
Battery	FREE 900	FREE 1200	FREE 2000	FREE 3000
72 Wh	900 lm 400 lm 80 lm 5 h 30 min - 12 h 12 - 16 h 70 h 120 m 90 m 45 m	1200 lm 500 lm 80 lm 4 h 30 min - 9 h 12 - 24 h 70 h 150 m 100 m 45 m	2000 lm 800 lm 80 lm 3 - 6 h 7 h 30 min - 15 h 70 h 180 m 115 m 45 m	3000 lm 1000 lm 80 lm 2 - 4 h 6 h 30 min - 13 h 70 h 215 m 125 m 45 m
36 Wh	900 lm 400 lm 80 lm 2 h 45 min - 6 h 6 - 8 h 35 h 120 m 90 m 45 m	1200 lm 500 lm 80 lm 2 h 15 min - 4 h 30 min 6 - 12 h 35 h 150 m 100 m 45 m	2000 lm 800 lm 80 lm 1 h 30 min - 3 h 3 h 45 min - 7 h 30 min 35 h 180 m 115 m 45 m	3000 lm 1000 lm 80 lm 1 - 2 h 3 h 15 min - 6 h 30 min 35 h 215 m 125 m 45 m
24.1 Wh	900 lm 400 lm 80 lm 2 h - 4 h 4 - 6 h 30 h 120 m 90 m 45 m	1200 lm 500 lm 80 lm 1 h 30 min - 3 h 4 - 8 h 25 h 150 m 100 m 45 m	2000 lm 800 lm 80 lm 1 - 2 h 2 h 30 min - 5 h 25 h 180 m 115 m 45 m	3000 lm 1000 lm 80 lm 40 min - 1 h 20 min 2 - 4 h 25 h 215 m 125 m 45 m
14.4 Wh	900 lm 400 lm 80 lm 1 h 40 min - 3 h 3 h 20 min - 4 h 30 min 20 h 120 m 90 m 45 m	1200 lm 500 lm 80 lm 1 - 2 h 2 h 30 min - 5 h 15 h 150 m 100 m 45 m	2000 lm 800 lm 80 lm 30 min - 1 h 1 h 15 min - 3 h 15 h 180 m 115 m 45 m	3000 lm 1000 lm 80 lm 20 - 40 min 1 - 2 h 15 h 215 m 125 m 45 m
11.1 Wh	900 lm 400 lm 80 lm 1 h 30 min - 2 h 30 min 3 - 4 h 15 h 120 m 90 m 45 m	1200 lm 500 lm 80 lm 45 min - 1 h 30 min 2 h - 3 h 30 min 15 h 150 m 100 m 45 m		
brightness level: max med min				

ABOUT LI-ION BATTERIES

The battery should be stored in a dry environment within the temperature range of -20°C and +35°C.
If you would like to store your battery for a longer period (more than 30 days) the battery should not be fully charged. Recommended charge level for storing is 50%.
You can always charge a half full battery without damaging its characteristics.
Do not expose the battery for extreme temperatures which may cause fire or explosion.
To get the most out of your battery - do not expose it to low temperatures during use.
Do not disassemble or mistreat the battery; risk for chemical burn.
Keep away from children.
Do not submerge the batteries in water. Do not short circuit the contacts.
Always disconnect the battery when the lamp is not in use.

PROTECTING THE ENVIRONMENT.

Lamp unit, headband, batteries and packaging are recyclable. Please dispose these items at designated recycling stations.

WARRANTY

Silva warrants that your Silva headlamp for a period of five (5) years* will be free from defects in materials and workmanship under normal use. Rechargeable batteries are covered for 2 years or 300 charge cycles. Silva's liability under the warranty is limited to repairing or replacing the product. This limited warranty applies only to the original purchaser. If the product is found to be defective during the warranty period, please contact the original place of purchase. Make sure to have your proof of purchase handy when returning the product. Returns cannot be processed without the original proof of purchase.

This warranty does not apply if the product has been modified or if it has not been installed, used, repaired or maintained in accordance with instructions from Silva. The warranty also does not apply if the product has been subjected to abnormal physical or electrical use or in case of negligence, abuse or accident. The warranty also does not cover normal wear and tear. Silva is not responsible for any consequences (direct or indirect) or damages arising from the use of this product. Under no circumstances will Silva's liability exceed the amount you paid for the product. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

The warranty is only valid and may only be processed in the country of purchase. The consumer's rights pursuant to law of the country of purchase are not affected by this warranty.

* Headlamp: Five (5) years.

* Rechargeable battery: Two (2) years or 300 charge cycles.

For more information please visit www.silvaweden.com

