

Icaro 2000 - Exclusive Sports Helmets Pro Copter owner's manual		Page # 1 / 12
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Pro Copter – Owner's manual

We are happy that you have chosen a helmet by Icaro2000, designed to offer the greatest possible protection, comfort and style in your favourite sport.

This high-quality, certified product is accompanied by a manual that provides details on specifications, personalisation, use and care. We recommend reading the manual to optimize the helmet's performance.

We have decided to help the environment by not printing the manual. You can find the latest version of this document online at the following link:

<https://bit.ly/3fpIEtC>

You will also find a link to this document on our website www.icaro2000.com, at the page for the helmet you have just bought.

Or scan the QR code below using your mobile device:



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Icaro 2000 congratulates you on your purchase of a new **Pro Copter helmet**. This professional helmet was first developed by Icaro 2000 for the Swiss Rega air rescue service, and it was originally named Rega II. Today it has a new name, **Pro Copter**, but its technical specifications remain the same. It is used by **medical personnel** involved in **rescuing injured people**. In the air, users are either inside the helicopter or suspended below it on the winch. So they never receive a flow of air directly from the front, but only from above. For this reason, Pro Copter is not suitable for pilots flying paragliders, hang gliders, or open microlights. In such craft, the airflow reaching the pilot causes turbulence between the visor and the eyes.

Pro Copter was designed by **Ignazio Bernardi**, with technical consultancy from Italy's most important helmet developer. The resulting helmet has a **modern, exclusive look**. Its principal purpose, **safety**, has been achieved without sacrificing comfort or performance, by virtue of the innovative technology that we have applied. In fact it is constructed using the same technology as in military applications, including **high-modulus full carbon** or **glass fibre** in order to guarantee the highest possible safety standards.

All new Icaro 2000 helmets are tested by CSI (an organization authorized by the Italian Ministry of Transport and recognized by German certification association TÜV), obtaining certification as **free flight helmets** in compliance with **European standard EN 966**, or as water sports helmets in compliance with the EN 1385 standard, or as skiing and snowboard helmets in compliance with the EN 1077 standard.

Icaro 2000 recommends the use of exclusively certified helmets.

Our network of distributors worldwide ensures the availability of service and components wherever you are based.

For further information or service, please consult your nearest Icaro 2000 retailer, or contact the company direct at:

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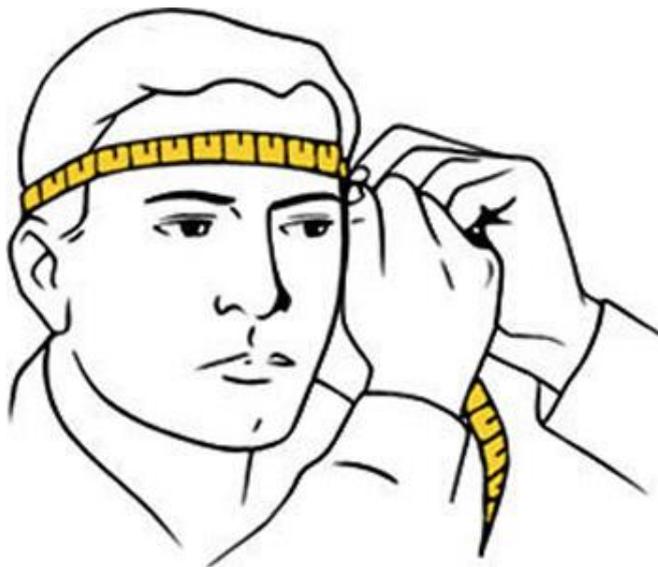
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General information

Choosing and purchasing a helmet

When you purchase a helmet, the most important moment is choosing the **right size**. If you have never purchased a helmet, you probably don't know your own size. The size of a helmet is specified by the **inner circumference of the internal padding**. The size number therefore corresponds to the **head circumference in centimetres**.



Take your time when choosing a helmet. Try several, and follow these criteria:

Put the helmet on and fasten the strap:

- The helmet should not be so loose that it moves around, but neither so tight that you can feel a continuous pressure on your head
- A helmet that is too large may slide down and obstruct your eyes
- Try to pull it off, moving it back and forth: if it tends to slip off or move around, it is too large
- Lean your head forwards, grip the helmet's rear edge, and try to pull the helmet off. If the helmet slides off, it is not suitable for the shape of your head.

If, while trying on the helmet, it does not perform satisfactorily for just one of these criteria, you should try another size or another model.

How to try on a helmet with headset:

When you are trying on a helmet whose shell has an opening in correspondence with the ears, because they are designed to be used with headsets (whether for noise reduction or radio communications), it is essential to **fasten the chinstrap correctly** and position the **headphone cups** (swing them down into the closed position) **over the ears**.

In fact, if these helmets are worn without headphones, a large portion of the contact surface, which contributes considerably to the helmet's stability on the head, is missing.

So if you try on the helmet with the headphone cups in the open position, the helmet will feel unstable.

In addition, the **headphones are part of the certification**, and so a helmet of this type worn without headphones can be considered as not certified.

Structure of the Pro Copter helmet

Outer shell:

- Pro Copter is made using the same technology as in military applications, with an outer shell in full carbon or glass fibre to ensure the highest possible standards of safety. These materials give the outer shell **high perforation resistance, strength, elasticity, and lightness.**



Crushable foam inner shell:

- Pro Copter has a **very thick inner shell in expanded polystyrene**, in order to comply with the stringent penetration test that is part of EN 966 certification.
- In the case of impact, it is likely that the inner shell will be deformed or damaged, and in this case the helmet should be replaced. This is part of the helmet's intrinsic function. In fact, polystyrene is easily deformable, and in this context its function is to **absorb shock** by means of deformation and/or partial destruction. A more rigid material would not have the effect of dissipating impact energy, and so it would transmit all the shock energy to the head.



Comfort padding:

- **Pro Copter** has fixed internal comfort padding that can be replaced by thicker or thinner elements, thus varying the helmet size. If the helmet is not a perfect fit, we can send new padding free of charge, irrespective of where you bought the helmet. The padding is easy to remove, and so it can be washed and replaced whenever you like.
- There are **6 internal padding sets** for the sizes:
 - 54 (X Small)
 - 57 (Small)
 - 58 (Medium)
 - 60 (Large)
 - 62 (X Large)
 - 63 (XX Large).



Vents:

The vents provide **internal ventilation** and air circulation. In **Pro Copter**, there are vents in the outer shell which correspond to vents in the polystyrene inner shell. These ensure optimum internal aeration.



Sidepieces and luxury chin strap.

- Pro Copter has **sidepieces in stainless steel** coated in plastic wire, and they can be **adjusted** using the Allen key supplied with the helmet. In addition, the strap fitted onto the sidepieces can also be adjusted with millimetric precision. The system is protected by a registered patent, and we are in fact the only company using this unique arrangement.



Visor:

When closed, the transparent or brown-tinted visor is integrated into the helmet's structure, protected in its position between the fibreglass outer shell and the inner polystyrene layer. You can **open or close the visor** by using the **black button** on the top of the helmet, an operation that can be performed with one hand, even when you are flying.

The visor is easy to change, as it is held in position by just a **single screw**, indicated by a label inside the helmet.

The visor also not only **increases** the helmet's **passive safety** characteristics, but also its **active safety**, by increasing the **width of the field of vision** when compared to the use of **any type of sunglasses**.



Electronic headsets:

Pro Copter is a **professional helmet**, and the use of **specially-fitted headsets** is of fundamental importance. The models shown here are very practical, because the ear cups can be flipped upwards or sideways quickly and easily. As a result, you can hear normally even when wearing the helmet on the ground. When you are in the air, you can ventilate your ears whenever you like.

Headsets are mandatory for the helmet's EN 966 certification. We can fit our Pro Copter helmet with professional electronic headset systems by German company Loescher electronics. For any special requirements, please contact us directly.



Technical specifications

- **Weight:**
 - Pro Copter in the full carbon version weighs 650 grams (+/-50 grams) including the visor.
 - Pro Copter in the fibre glass version weighs 790 grams (+/-50 grams) including the visor.
 - The tolerance in the helmet weights is due to differences in the amount of resin used to bond the fibre layers.
 - Peltor Op II ear defenders, which just filter out engine noise, weigh 230 grams.
 - Electronic headsets with cable weigh 390 grams.
- **Sizes:**

The Pro Copter helmet is available in five sizes, with six internal padding sets that provide additional adjustment.

 - Small (S): sizes 54-56
 - Medium (M): 56-58
 - Large (L): 58-60.
 - Extra large (XL): 60-62
 - XX large (XXL): 62-64
- **Certification:**
 - Pro Copter has **EN 966 certification**. It was tested by the Italian testing laboratory CSI, a company authorized by the Italian Ministry of Transport and recognized by the German organization TÜV. This certification is specific for the helmet fitted with electronic headset fixed to the helmet.

Using the helmet

It is important that you **wear your helmet correctly**. For safety, it should always fit snugly, and the **strap** should be **tightly fastened**.

A helmet will never be able to guarantee total protection for the head when subject to the forces produced by whatever type of impact. However this is no excuse to forego wearing a helmet. You should **always wear your helmet**, in order to exploit the protection that it provides, whatever impact may occur.

4 things that you should never forget

1. **Before using the helmet**, read all the instructions, and follow the suggestions carefully to ensure a correct fit.
2. **Do not use the helmet without fastening the strap**. An unfastened helmet will fall off during the first impact, leaving the head defenceless for successive impacts. There is also the risk of it falling off during flight.
3. **Do not** fasten the helmet **using just the velcro**. The velcro that may be present on the strap serves purely to stop it flapping in the wind.
4. To ensure maximum performance, **never modify your helmet**, whatever the circumstances.

In case of accident

- If the accident happens to you:
 - The inner shell will be deformed – though the deformation may not be visible to the naked eye – because it has absorbed the impact.
 - **After an accident, even if the impact was minor, the helmet should be replaced, regardless of whether there is visible damage or not.**
- If you **witness an accident**:
 - Keep calm.
 - Report the accident immediately, if possible by phoning for an ambulance (dial 118 in Italy). Only medically-qualified personnel know exactly how to deal with injuries.
 - Never move an injured person, unless this is absolutely essential because of a situation of greater danger. If the spinal column has been fractured, moving the injured person could damage the spinal cord, causing permanent paralysis.
 - If the victim is wearing a helmet, do not remove it, but open the visor to facilitate breathing.
 - Keep the victim calm, and, if possible, cover him. Shock provokes shivering and a sensation of cold.
 - Do not give the victim alcoholic drinks.
 - Stem the flow of blood from wounds, protecting your hands with gloves or similar, throwing them away later if they have been soiled with blood. Do not apply tourniquets: if you place a tourniquet in the wrong position, you could worsen the situation.
 - Never put the victim into a private car. Wait for the ambulance. If the victim is conscious, talk to him or her and try to calm him or her down.

Helmet maintenance

The helmet protects your head, and so it should be **treated with care**.

The **visor** should be **changed** when it has **scratches** preventing satisfactory vision.

The helmet can be **seriously damaged by**:

- Paints and varnish
- Petrol
- All types of chemical solvent
- Excessive heat (do not leave your helmet exposed to the sun)
- Inappropriate modifications

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Scrupulously follow the instructions provided by the manufacturer.

A helmet does not have a fixed lifespan. However, it is a good rule to replace it after five years of correct use.

Important!

- **THE EXTERNAL SHELL OF THE HELMET SHOULD NEVER BE ALTERED IN ANY WAY.**
- **INTERNAL POLYSTYRENE PARTS SHOULD NEVER BE MODIFIED OR REMOVED.**
- **NEVER APPLY PETROL, DILUENTS, TOLUENE OR OTHER SOLVENTS OR CHEMICAL SUBSTANCES TO ANY PART OF THE HELMET.**

Personalization

Removal and reassembly of internal padding

Important: do not use sharp or pointed tools such as screwdrivers, etc., unless absolutely necessary, in order to prevent scratching or damaging the helmet and its structural components

Pro Copter’s fixed internal comfort padding can be removed and replaced for washing or for varying the helmet size.

The padding is fixed to the polystyrene inner shell by means of a series of Velcro strips. It is easy to remove. Just ensure that you **detach the Velcro strips by holding and pulling the strips themselves. Don’t just pull the comfort lining out from the helmet.**

Reassembly

When reassembling the padding, ensure that it is positioned centrally and symmetrically.

When you are sure that the padding is in the correct position inside the helmet, press the Velcro fastening strips firmly in order to fasten the lining.

Visor installation and removal

The visor can be removed if it has to be cleaned thoroughly or replaced, or if you have purchased a new visor for your Pro Copter helmet. The visor is easy to remove or replace, as it is held in position by just a single screw.

Important: when fitting and removing the visor, be careful not to scratch the surface of the helmet or visor with a screwdriver or other sharp or abrasive objects.

Procedure for visor removal

- Looking into the inside of the helmet, you will see a hole in the polystyrene inner shell, near the front of the helmet (it may be marked by a label saying “Remove the screw to remove the visor)
- While looking into the hole, move the visor until the screw comes into view (you will see it when the visor is about two-thirds fully down)
- Using a hex screwdriver or Allen key, unscrew and remove the screw. Take care to prevent it from falling into the apertures in the polystyrene inner shell.
- The visor can now be removed.

To replace the visor or fit a new visor, follow the reverse procedure:

- Look into the hole inside the helmet and operate the visor slider until the threaded hole comes into view
- Slide the visor into its location on the helmet, between the outer shell and the polystyrene inner shell
- Position the visor so that the hole in the visor is in correspondence with the threaded hole
- Use a hex screwdriver to tighten the screw, thus fixing the visor in place.

Cleaning

Visor and external shell

- Use **only water and neutral liquid soap** and a **soft cloth** for drying the visor.
- Do not rub the visor too hard.

Internal parts

Interior polystyrene

- Use **only a damp cloth**.
- Leave to **dry** at room temperature, protected from direct sunlight.

Internal padding

- Hand-wash carefully, using just water at maximum 30° C and **neutral soap**.
- Rinse in cold water.
- Leave to **dry** at room temperature, protected from direct sunlight.

Important information

Pilots who are used to flying with just sunglasses or even with no eye protection at all **may take a few flights to get accustomed to the visor**. If you don't feel comfortable with the visor to start with, just lower and raise the visor during your first flights with the helmet until you get used to it.

In conditions of high humidity and/or large temperature excursions, the visor may fog. On such occasions you will immediately appreciate the difference between flying with sunglasses and with a visor: in the latter case, you just have to open the visor slightly to obtain the complete clearance of any fogging.

The Pro Copter helmet was designed specifically for use when suspended below a helicopter on a cable, therefore in a vertical airflow. If you rotate your head into different positions, the interaction of the airflow with the visor could give rise to anomalous sounds.

- **Never fly without a helmet**
 - Your life is too precious to risk losing it just because you have forgotten something.
- **Use only a helmet with EN certification**
 - European EN certification was developed differently for all different activities to offer the best possible protection
 - All our helmets are constructed in accordance with the regulations contained in the EN standard
 - Never trust a helmet that has no label guaranteeing an EN certification
- **We recommend the use of a full-face helmet**
 - A full-face helmet offers improved protection in every situation.
- **Never modify your helmet for whatever reason**
 - Modifications could reduce the level of protection, and could annul the helmet's certification.
- **Never use headphones under the helmet**
 - Any rigid components placed inside the helmet, between polystyrene lining and the head, could become percussive and damaging elements.
- **Always ensure that the chin strap is tightly fastened**
 - If you keep your helmet in the rucsac, don't sit on it.
 - Ensure that the helmet never falls to the ground or the floor.
 - Handle the helmet and visor with great care at all times.

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- After an accident, even when the impact is minimal, the helmet should be replaced, regardless of whether there is any visible damage or not.

Helmets and action cameras

Many pilots mount an action camera onto their helmets in order to record their adventures. It is important to remember that **any object projecting for more than 5 mm above the level of the outer shell annuls the helmet’s certification**, just as for any other modification that is not specified in the user manual. The reason for this is that an object mounted onto the external shell could become a percussive element that concentrates a percussive force onto a small area. Therefore, it is potentially dangerous and reduces the level of protection that the helmet can provide. Considering that even the most compact action camera projects at least 30/40 mm from the helmet’s outer shell, there is no doubt that a helmet equipped with this sort of device can no longer be considered as compliant with its respective certification. For this reason, because we at **Icaro2000** wish to offer the highest possible level of protection for our customers, we recommend not fitting action cameras or other devices onto the outer shell of a helmet.

Icaro 2000 wishes you happy and safe flying.

Icaro 2000 is committed to the ongoing development of its technology, and therefore it reserves the right to modify the characteristics of its products at any time and in any way, without prior notice.