



apollo   
*MILITARY*

**Apollo BIO-FIN**





## Apollo Bio-Fins

Apollo Bio-Fins are the only split fins made from 100 % natural rubber material that enhances durability and strength for Military Operations. The Bio Fin has proved a superior design for both short and long distance water operations. Its capability covers all aspects of military operations such as MCT (Maritime Counter Terrorism), MTO (Maritime Tactical Operations), MCM (Mine Counter Measures) and UBDR (Underwater Battle Damage Repair).

Operators prefer to use the Bio-Fin Pro series because the natural rubber is negatively buoyant. The flexibility of rubber increases thrust and reduces the risk of surface splashing. If the operator is required to discard the fin it will sink to the bottom so as not to alert the target of the operator's presence.

The design of the fin makes it ideal for helicopter airdrops.





## Apollo Bio-Fin Pro **XT**

### Overall capabilities.

The outstanding feature of the XT Fin is the power. You can use the XT to traverse strong currents or deploy boarding ladders etc. You are able to achieve this due to the 30% stiffer blade, which delivers the extra torque you require. This enables you to do tasks that other fins cannot cope with.

Being a 30% stiffer fin, the Apollo Bio Fin Pro XT has proved exceptional for both short and medium distance water operations.

This design produces the extra power required when an operator is carrying heavier loads, is in and out of inflatable boats (RHIBS) or for very fast shorter distance swims. Lower air consumption and fatigue reduction still apply.

Its capability covers all aspects of military operations such as MCT (Maritime Counter Terrorism), MTO (Maritime Tactical Operations), MCM (Mine Counter Measures) and UBDR (Underwater Battle Damage Repair).



## Apollo Bio-Fin Pro XT

### BIO-FIN PRO XT WITH STAINLESS STEEL (S/S) SPRING STRAP

| APOLLO AUSTRALIA<br>PTY LTD<br>NCAGE No Z5A32 | NATO STOCK N°<br>(NSN) | DESCRIPTION                | SIZE   | COLOUR       |
|---|------------------------|----------------------------|--|--------------|
| FN07697                                       | 4220-66-152-2668       | BIO-FIN PRO XT M           | M - 300mm S/STRAP<br>(Fits UK/AUS 6 to 8)      | DARK<br>GREY |
| FN07698                                       | 4220-66-152-2668       | BIO-FIN PRO XT<br>LL 325mm | L/XL - 325mm S/STRAP<br>(Fits UK/AUS 8 to 19)  | DARK<br>GREY |
| FN07698L                                      | 4220-66-152-2668       | BIO-FIN PRO XT<br>LL 350mm | L/XL - 350mm S/STRAP<br>(Fits UK/AUS 10 to 11) | DARK<br>GREY |
| FN07698LL                                     | 4220-66-152-2668       | BIO-FIN PRO XT<br>LL 375mm | L/XL - 375mm S/STRAP<br>(Fits UK/AUS 12 to 13) | DARK<br>GREY |



**MCT , MTO & UBDR** Unbreakable Spring straps. A 30% stiffer bladed fin that is better for getting in and out of small boats and, pushing a load through water, & for quick short & medium range swims.

### BIO FIN PRO XT (MIN MAG) WITH ADJUSTABLE RUBBER STRAPS

| APOLLO AUSTRALIA<br>PTY LTD<br>NCAGE No Z5A32 | NATO STOCK N°<br>(NSN) | DESCRIPTION    | SIZE | COLOUR    |
|---|------------------------|----------------|------|-----------|
| FN08395                                       | TBA                    | BIO-FIN PRO XT | M    | DARK GREY |
| FN08400                                       | TBA                    | BIO-FIN PRO XT | L/XL | DARK GREY |



**MCT , MTO, UBDR & MCM** A 30% stiffer bladed fin for **MCM** that is better for getting in and out of small boats and, pushing a load through water, & for quick short & medium range swims. Fully adjustable rubber straps.

### BIO-FIN PRO XT WITH ADJUSTABLE RUBBER STRAP

| APOLLO AUSTRALIA<br>PTY LTD<br>NCAGE No Z5A32 | NATO STOCK N°<br>(NSN) | DESCRIPTION    | SIZE | COLOUR    |
|---|------------------------|----------------|------|-----------|
| FN07861                                       | 4220-66-152-2668       | BIO-FIN PRO XT | M    | DARK GREY |
| FN07863                                       | 4220-66-152-2668       | BIO-FIN PRO XT | L/XL | DARK GREY |



**MCT , MTO & UBDR** A 30% stiffer bladed fin that is better for getting in and out of small boats and, pushing a load through water, & for quick short & medium range swims with fully adjustable rubber straps.

#### LEGEND

|                            |     |                                   |      |
|----------------------------|-----|-----------------------------------|------|
| Maritime Counter Terrorism | MCT | Maritime Tactical Operations      | MTO  |
| Mine Counter Measures      | MCM | Underwater Battle Damage & Repair | UBDR |



## Apollo Bio-Fin Pro

### Overall Capabilities

Being built from a more flexible rubber compound than the XT model, the Bio Fin Pro comes into its own for medium and long distance swims where energy consumption is at a premium. You will swim these fins all day long without cramping up.

The design of our military fin makes it ideal for helicopter airdrops. If secured to the body during freefall and / or static line drops the fin will bend to the curve of the leg or torso to minimize entanglements etc. Because the flexible split blade design offers only minimal resistance upon water entry operators may choose to wear the Bio Fin during low level helicopter insertion water drops.

Both surface and subsurface operations are aided by the innovative propulsion design that reduces air consumption and fatigue by up to 40% over conventional blade fins.

Its capability covers all aspects of military operations such as MCT (Maritime Counter Terrorism), MTO (Maritime Tactical Operations), MCM (Mine Counter Measures) and UBDR (Underwater Battle Damage Repair).



## Apollo Bio-Fin Pro

### BIO-FIN PRO WITH STAINLESS STEEL (S/S) SPRING STRAP

| APOLLO AUSTRALIA<br>PTY LTD<br>NCAGE No Z5A32 | NATO STOCK N°<br>(NSN) | DESCRIPTION             | SIZE   | COLOUR |
|---|------------------------|-------------------------|--|--------|
| FN07686                                       | 4220-66-152-2592       | BIO-FIN PRO             | L/XL - 325mm S/STRAP<br>(Fits UK/AUS 6 to 8)   | BLACK  |
| FN07687                                       | 4220-66-152-2592       | BIO-FIN PRO<br>LL 325mm | L/XL - 350mm S/STRAP<br>(Fits UK/AUS 8 to 9)   | BLACK  |
| FN07687L                                      | 4220-66-152-2592       | BIO-FIN PRO<br>LL 350mm | L/XL - 325mm S/STRAP<br>(Fits UK/AUS 10 to 11) | BLACK  |
| FN07687LL                                     | 4220-66-152-2592       | BIO-FIN PRO<br>LL 375mm | L/XL - 350mm S/STRAP<br>(Fits UK/AUS 12 to 13) | BLACK  |



**MCT, MTO & UBDR** Unbreakable Spring straps. A softer bladed fin that is ideal as a general purpose fin and long range or extended use.

### BIO FIN PRO (MIN MAG) WITH ADJUSTABLE RUBBER STRAPS

| APOLLO AUSTRALIA<br>PTY LTD<br>NCAGE No Z5A32 | NATO STOCK N°<br>(NSN) | DESCRIPTION    | SIZE | COLOUR |
|---|------------------------|----------------|------|--------|
| FN08295                                       | TBA                    | BIO-FIN PRO M  | M    | BLACK  |
| FN08300                                       | TBA                    | BIO-FIN PRO XL | L/XL | BLACK  |



**MCT, MTO, UBDR & MCM** A softer bladed fin for MCM that is ideal as a general purpose fin and long range or extended use with fully adjustable rubber straps.

### BIO-FIN PRO WITH ADJUSTABLE RUBBER STRAP

| APOLLO AUSTRALIA<br>PTY LTD<br>NCAGE No Z5A32 | NATO STOCK N°<br>(NSN) | DESCRIPTION | SIZE | COLOUR |
|---|------------------------|-------------|------|--------|
| FN07640                                       | 4220-66-152-2592       | BIO-FIN PRO | M    | BLACK  |
| FN07642                                       | 4220-66-152-2592       | BIO-FIN PRO | L/XL | BLACK  |



**MCT, MTO & UBDR** A softer bladed fin for MCM that is ideal as a general purpose fin and long range or extended use with fully adjustable rubber straps.

#### LEGEND

|                            |     |                                   |      |
|----------------------------|-----|-----------------------------------|------|
| Maritime Counter Terrorism | MCT | Maritime Tactical Operations      | MTO  |
| Mine Counter Measures      | MCM | Underwater Battle Damage & Repair | UBDR |

## Apollo Bio-Fin Strap Systems

We have the choice of two strap systems.

### The Rubber Strap

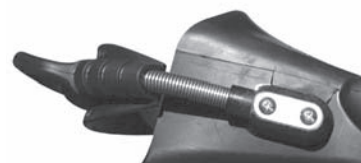
The rubber strap system is available with both Bio-Fin Pro and the Bio-Fin XT version and is recommended for short, medium or long duration swims where user is not required to remove the fin often. This is the preferred choice for EOD (clearance) divers who require equipment with a low-mu (non-magnetic signature).



### The Spring Strap

The Stainless Steel Spring Strap system offers total security from strap breakage during an operation and can be used with both Bio-Fin Pro and the Bio-Fin XT.

It's superb for long duration swims; however it is the short to medium swims when a user may be required to remove the fin at speed that the Spring Strap system beats all others. The Spring Strap offers an easy one-handed operation that allows the operator to simply remove the strap by stretching it back. This greatly increases the speed and ease to which an operator can refit or remove their fins quickly.



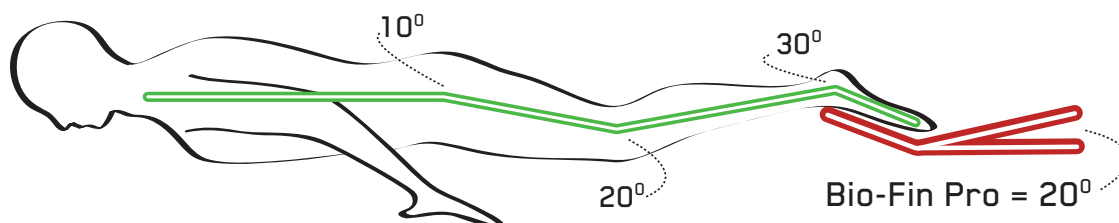
The Spring Strap system totally eliminates the chance of strap, lug or buckle breakage during any operation and is an ideal choice for both operational & training scenarios.

### Bio Fin & XT Blade System

The design of the Bio-Fin Pro series gives the diver the maximum thrust efficiency possible for the minimum energy used. The engineering and research coupled with practical field trials has delivered the world's leading fin.

### Natural posture & Blade Angle of attack

The Bio Fins blade has an angle of attack of 20% that has been ergonomically designed for the most efficient thrust to energy ratios.



## Specifications - Bio Fin Pro and XT

- Made from natural rubber – for consistent flex and extreme durability
- Negatively Buoyant – For efficient covert approaches that minimize the risk of the fin breaking the surface and causing splashing that may attract unwanted attention
- Open toe design for comfort on long swims and easy draining of any sand or silt
- Up 40% saving on air consumption
- Up to 40% saving on energy usage – Eliminates muscle cramping
- Rubber Straps – ideal for Mine Clearance Divers
- Spring Straps – Ease of use and total security against breakage
- Fantastic power and speed
- Different flex characteristics to suit the application
- Big size range to suit all divers

This all combines to give you an operational advantage that no one else can offer!

## Technical Specification Summary - Key USP's (Unique Selling Propositions)

Material composition is extremely important as Apollo Bio-Fins achieve superior flex, and are negatively buoyant to minimize surface splashing.

### Our material

- 100% Natural Rubber
- Negatively buoyant
- UV stable
- Extremely abrasion resistant

### Physical properties

- Hardness of Bio-Fin Pro XT is 75 degree durometer (hardness factor)
- Hardness of Bio-Fin Pro is 65 degree durometer (hardness factor)
- Tensile Strength 14.6 MPa
- Elasticity 790%
- Specific Gravity 1.105

### Stainless Steel Spring Strap Buckle System

Apollo is the only fin worldwide where the spring strap is bolted through the sidewall of the fin therefore eliminating all of the following potential breakage points.

- No plastic buckles to break.
- No silicon or rubber strap to break
- No lug breakage can occur because the spring strap is securely bolted through the sidewall of the fin where the straps attach. All other fins have a breakage point at the lug where the strap is attached.

### Foot Pocket Design

The foot pocket has been designed with an open toe area that is very comfortable for operators and drains quickly and easily.

## **Hear what others have to say.....**

### **Apollo Bio-Fin Series - Independent Testing**

Scuba Diving Magazine said:

*"For the seventh year in succession, Apollo's Bio Fins have taken the honors' as the best overall performing fin on the market."*

The Apollo Bio Fin has consistently been the highest scoring fin and "Testers Choice" and "Best Overall Fin Tested every year from 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006 and still remains unbeaten to date.



### **Testimonials**

*"I am a US Navy SEAL and have been in the military for 12 years. I use fins in many different applications such as jumping from helicopters, airplanes, long surface swims, and extensive combat diver operations. I have tested the Apollo Bio-Fin in all types of profiles and environments and have found it to be superior in all respects to any other fin I have used.*

*The tests have been surface swimming on side, stomach, and back; against current, with current, 90 degrees to current; navigation dives with open circuit and closed circuit, [and] deep dives with open circuit. Other applications have been static line parachute jumps, military free fall night water RAMS parachute jump, and closed circuit scuba exhaustion dive. The Bio-Fins did better in all applications in areas of speed, comfort, ease of swimming, gas consumption (VO2 max), deep dives and heavy current. I used different personnel from the military Special Forces community; SEAL, PJ, CCT, SF, RANGER, to accomplish these tests."*

- Tim Core MM1(SEAL/SW) United States Navy

*"I am a U.S. Army Ranger and have been in the military for 8 years. I have used numerous types and styles of fins in various applications and I have been impressed with the performance of the Apollo Bio-Fin. I have tested it in different types of profiles and environments and I strongly recommend the Bio-Fin to all swimmers and divers, civilian and military."*

- David A Bucknam SSG USA, U.S. Army Rangers

*The Executive Officer of the Special Forces Underwater Operations School stated "I have been extremely pleased and impressed with the performance of the Apollo Bio-Fin. I have tested it in all types of profiles and environments and have found it to be superior in all respects to any other fin I have tried. Normally to obtain optimal performance I have to switch fin types depending on whether I'm diving or surface swimming. The Bio-Fins deliver superior propulsion in both profiles and in heavy current. Most importantly to the combat swimmer, increased efficiency means less gas consumption, giving the operator more subsurface infiltration/exfiltration time, and so increasing the chances for mission accomplishment."*

- Joseph Diekemper LT United States Navy



## **Apollo BIO-FIN**

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