

FREQUENTLY ASKED QUESTIONS

1. You pretend that **PEDAYAK** is a concentrate of innovations, but what are these innovations compared to the Hobie Mirage or other hands-free kayaks that recently arrived on the market?

Indeed, **PEDAYAK** has several major innovations compared to its competitors:

- The excellent efficiency of propeller propulsion and direct shaft drive.
- The 2 side keels under the hull protect the propeller and rudder perfectly and allow **PEDAYAK** to beach, even at high speed. They also add stability and potentially opposes drift when sailing.
- The change from forward to reverse is done directly by retropedalling.
- The easy, precise and efficient steering system combining:
 - A rudder located just behind the propeller that "picks up" the water nets propelled on the rear,
 - A helm
 - A control stick located just under the hand, which can be installed on the right or left according to your preferences.
- The possibility of using a light sail with good performance under all wind directions thanks to its keels.
- The side tubes are used as handles to ensure a good fit for the user, but also to fix a lot of accessories: fishing rod holders, bags and pockets, sounder.
- Modularity: Thanks to the addition of an intermediate structure solidly bolted to the hull, it can become a catamaran (**PEDAYAK DUO**), a trimaran (**PEDAYAK TRIO**) or a prao (**PEDAYAK PRAO** and **GRAND PRAO**).
This assembly is done in 15 minutes.

The **PEDAYAK** is available in an electric version (**PEDAYAK Electric**) and, as an option, powered by photovoltaic panels (**PEDAYAK SOLAR**). It can also be fitted with a rig, making a total of 21 versions in the **PEDAYAK** range.

2. What is the advantage of a propeller propulsion over other hands-free systems such as flaps or oscillating planes?

The current propellers are designed with an elaborate specific profile, like aircraft wings. They have a high efficiency and therefore allow higher performance than other propulsion systems. In addition, they also allow you to immediately reverse by back-peddalling.

In addition, a propeller has a continuous rotation motion which is more efficient than a back and forth motion suffering loss at the limits of the motion. In shipbuilding in general, no boats are all equipped with propellers, not with flaps.

3. Why is **PEDAYAK** 50% faster than an ordinary kayak ?

Because:

- The propeller is much more efficient than the paddle.
- The thigh muscle is much more powerful than the arm muscle.

Without going into complicated technical explanations, an ordinary kayak moves forward on the reaction to a paddle stroke, i.e. to a punctual sending of a certain volume of water over the stern. **PEDAYAK** is propelled by the lift of the propeller blade profile, like an aeroplane wing, rather than by the backward propulsion of a mass of water.

That said, a kayak's performance is always a function of the user's physical strength and training.

4. On the photos, the seat is fixed at an obtuse angle. Can the seat position be adjusted to a right angle for fishing?

This seat inclination corresponds to an optimal and ergonomic pedaling position with efficiency. The one that allows the greatest comfort and speed.

If you want a more upright position, for example for fishing, you can change the position of the back by adjusting the backrest.

5. Can the seat position be adjusted according to the user's size?

The seat as such is not adjustable: we think it doesn't need to be.

However, the distance between the seat and pedals can be adjusted in several ways:

- Sliding more or less into the seat (from the « buttock to bottom » on the rear position to « buttock on forward »)
- By using the adjustable backrest
- By slipping a mere boat cushion in the back, available to all shipchandlers.

Thus, all the users confirmed a comfortable pedaling position for people with a size between 1.45 and 1.95 meter.

6. Other kayaks with current pedal propulsion cannot "beach" because they risk breaking the propeller or rudder. On **PEDAYAK** how does it work? Can the propeller or rudder be broken?

A striking innovation of **PEDAYAK** is that it is equipped with two side keels to protect the propeller and rudder perfectly.

You can get to the beach at full speed without damaging anything.

You can drag **PEDAYAK** on the beach pulling only its front handle without any damage. It's designed for that. See our videos.

7. If the propeller breaks or is damaged, is it possible to change it?

Simply unscrew a bolt to change the propeller. The company supplies replacement propellers, like all other spare parts.

8. Can we go backwards?

Reverse-pedaling, or pedaling in the opposite direction to the "normal" direction of pedaling, activates the propeller directly in the opposite direction and immediately allows to go back. When reverse pedaling, the "propeller pitch effect" also allows precise and efficient manoeuvring, especially when reverse pedaling and rudder orientation are combined.

That being said, the propeller is designed to be more efficient in forward course, **PEDAYAK** is faster when going forward than backwards.

9. Is it heavy or cumbersome ?

PEDAYAK weighs 40 kg. This is about the weight of a normal kayak of equivalent size.

PEDAYAK measures 3.60 m and can easily be placed on a car roof rack by two people.

PEDAYAK TRIO, PRAO or **DUO**, when disassembled, goes on a car roof rack.

10. How to transport the **PEDAYAK** with a car ?

- For short trips, let's say a few dozen km: It is placed inside the car arranged as a station wagon, lying on its side, the front of the **PEDAYAK** between the two front seats. The rear protrudes from the trunk, whose door remains partially open. This can be done alone.

- For longer trips: It is placed on roof racks, usually the rear of the **PEDAYAK**, towards the front of the car. Or on the edge with carrying hoops attached to the roof racks. Two persons are recommended to put it on the roof.

11. Is **PEDAYAK** approved?

PEDAYAK is certified in accordance with the European Recreational Craft Directive 2013-53-EU of 20/11/2013, the European regulation governing small boats. The manufacturer (L'Aquaphile sarl) has a manufacturer registration from the French Administration.

PEDAYAK is **CE** marked.

12. What are the navigation limitations, including the maximum distance from a shelter?

PEDAYAK falls within the scope of the European Directive n° 2013/53/UE of 20/11/2013. Consequently its use is not limited by the distance to a shelter, but by a wind force and sea state.

We have chosen category D for the **PEDAYAK**: Wind up to force 4 Beaufort (up to 16 knots of wind) and 0.3 meter of wave.

So: no limit of distance from a shelter for the **PEDAYAK**.

That said, even if it is not imperative, we recommend that our users comply with the safety rules of the French rule « 240 division », especially regarding the mandatory equipment for the 2 and 6 nautical miles limit off the coast.

13. Can the algae and seaweeds prevent the propeller from rotating?

The weeds or water meadows generally pass through the propeller without hanging on it.

Any anomaly on the propeller feels through the sensations of pedaling, and performance.

If an unidentified object is still attached to the propeller, stop pedaling, let it go few seconds on its speed and then reverse pedaling. It will be driven out.

14. What does it mean that the **PEDAYAK** range is modular?

PEDAYAK has been designed by engineers and sailors as a complete range, to give users a maximum of possibilities: carrying extra passengers (up to 4), sailing, using electric or solar power, providing maximum comfort and safety, sailing close to the coast or out of sight, on a raid or simply as a beach leisure activity. To achieve this, the company offers kits that are easy to assemble and dismantle: **PRAO**, **GRAND PRAO**, **TRIO**, **DUO**, **ELECTRIC**, **SOLAR R**, **SOLAR F** kits and rigging.

The breadth and variety of the **PEDAYAK** range means you can adapt to any situation: family, friends, scuba diving, raids, excursions, fishing, etc.

You can easily switch from one configuration to another, and simple, clear assembly and disassembly instructions are supplied.

In short, a maximum of tricks for a maximum of possibilities, for your pleasure.

15. How does the **PEDAYAK ELECTRIC** work?

The **PEDAYAK** has been designed for electric propulsion. The motor is installed as a "pod" in place of the rudder, so it can be steered using the steering stick. This gives excellent directionality, and even the ability to turn on the spot (see videos of the **PEDAYAK ELECTRIC**). It is controlled by a waterproof remote control that can be attached to the wrist. The **PEDAYAK**'s normal propulsion system, pedalling, is of course still usable. It provides propulsion if the battery is exhausted, or dual muscular-electric propulsion, just like an electric bike.

If the user falls into the water, the electric motor stops automatically after about twenty metres, as soon as the remote control signal is no longer received.

If you want to dismantle the electric drive, you can do so in 5 minutes, as explained in the instructions. You will then be back with the "basic" **PEDAYAK**. It can be reassembled in the same way, in reverse.

The battery is waterproof and removable (it can be recharged at home). It can be housed inside the hull or on the outside, so that the user can monitor its discharge by means of small LEDs.

16. How does the **PEDAYAK SOLAR** work?

The **PEDAYAK SOLAR** is an **ELECTRIC PEDAYAK** equipped with solar panels.

This allows the battery to recharge, so you can use it whenever the sun shines. The battery's LEDs indicate its charge level:

- Flashing LED: the battery is recharging

- Steady LED: battery discharged.

So you can use the motor's remote control to adjust your speed, and pedal if you like, to keep your battery charged at all times. This 'no-discharge' limit for the battery obviously depends on the amount of sunlight.

The photovoltaic panels chosen are light (1.5 kg) and waterproof. They can be placed on the roof or in the shade, which is very practical in summer to protect you from the sun. This is the **SOLAR "R"** kit (as in "roof"), or on the side with the **TRIO** and **PRAO** kits, the **SOLAR "F"** kit (as in "float").

In the **SOLAR R** version, it is advisable to have stabilising floats (see our list of accessories) if the water is a little rough.

The **SOLAR F** versions can also benefit from sail propulsion. Then two natural sources of energy can be used to propel your **PEDAYAK**: the sun and the wind.

17. Can disabled people, especially paraplegics, use **PEDAYAK** ?

Yes. People with disabilities have kindly participated in various trials.

A small adaptation may be necessary: By attaching a neoprene boot to the pedal, allowing the foot to remain attached to the pedal, they can use the device perfectly, even if they cannot pedal on a regular road bike. **PEDAYAK** does not require any balance or minimum speed, and the pedaling is soft.

The particularly stable **PEDAYAK TRIO Electric** has been adapted for people with disabilities under the name **PEDAYAK HANDI**.

18. How to use the **PEDAYAK Sail**?

The whole **PEDAYAK** range is designed for sailing: **PEDAYAK, PEDAYAK TRIO, PEDAYAK PRAO, GRAND PRAO** and **PEDAYAK DUO** (with 1 or 2 rigs).

PEDAYAK is a small 3.6 meters long boat only, but it has been designed to allow easy and safe sailing in open seas with moderate swell and wind, with a maximum of 28 km/h (15 knots) for an experienced sailor.

Of course this limit depends on the level of the user and his weight. Its practice must remain an easy and accessible pleasure for all, not an extreme sport!

It is stable thanks to its keels, which allow it to sail under all wind directions and notably to sail upwind. To top of its sail opens in gusty winds.

Perfect stability is provided by the **PEDAYAK TRIO, PRAO, GRAND PRAO** and **DUO**, wich sails flat in all conditions, with up to 37 km/h (20 knots) of wind.

If you turn over it is easy to turn it upright and go back up again (see the « Use & operation » video online).

The pedal drive always allows you to go back to shore if the wind is getting stronger (or if the wind drops), it is a great safety. If the wind forces excessively, the sail can be easily neutralised by taking the rigging out of its base and, as it floats, and then towed to shore.

Let's notice that the sitting position facing the direction of travel is comfortable and practical, no change of position at the tack change. A large transparent windows in the low part of the sail allows a view on 180 ° ahead.

PEDAYAK and its sail has been designed and tested by sailors, who have all been pleasantly surprised by its performance at sea.

19. What are the main characteristics of the **PEDAYAK** range ?

	PEDAYAK	PEDAYAK TRIO	PEDAYAK PRAO	PEDAYAK GRAND PRAO	PEDAYAK DUO
Dimensions L x W x H in cm	360 x 73 x 72	360 x 239 x 72	361 x 162 x 72	360 x 229 x 72	360 x 289 x 72
Weight in kg (with the rig)	42	65	56	58	90 (with 1 rig)
Floatability in liters	429	667	548	548	858
Maximum recommended load in kg	180	330	270	270	350
Maximum recommended users (/with kids)	2	4	3	3	5
Sailing category	D	D	D	D	D