#### AIRFLY

# PRODUCT MANUAL

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Alferti



www.aerofoils.de

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# Foreword

You have decided on an Airfly from Aerofoils GmbH. Thank you very much for your trust.

With your new Airfly, you will experience sports equipment with groundbreaking technology and high-quality equipment. We recommend that you read these operating instructions carefully so that you can get to know your sports equipment and use all its functions while driving. The information on operation is supplemented by important operating and care instructions that serve your safety and the preservation of the value of the Airfly. In addition, we will provide you with assistance on how to use your sports equipment efficiently and in an environmentally friendly way.

We wish you a lot of fun with your Airfly and a safe journey at all times.

Your Aerofoils GmbH

#### All rights reserved

Aerofoils GmbH is constantly working on the further development of all products and model variants.

Aerofoils GmbH reserves the right to make changes to the scope of delivery in terms of equipment and technology at any time. The operating instructions are based on current data at the time of execution.

Therefore, no claims can be derived from the information, illustrations and descriptions of these operating instructions. Reprinting, duplication or translation (even in excerpts) is not permitted without the written permission of Aerofoils GmbH.

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# About this instruction manual

# Introduction

These instructions must be read in full before using the Airfly (hereinafter referred to as e-foil), manufactured by Aerofoils GmbH, in order to ensure safe and proper use.

The instructions are aimed at riders and operators of the e-foil. These operating instructions apply to all model variants. It contains important information, tips, suggestions and warnings on how to use the e-foil.

Make sure that these operating instructions and associated documents are always with the product. This is especially true if you lend or sell the e-foil to others.

Failure to follow these instructions may result in personal injury or property damage. Aerofoils GmbH assumes no liability for damage caused in contravention of these instructions. If you are unsure about the operation or maintenance of the e-foil, please contact an authorized Aerofoils dealer or Aerofoils support.

# Manufacturer

Aerofoils GmbH Brauneckweg 14 85748 Garching

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# Laws and standards

The operating instructions are based on EN 82079-1: 2021.

# Applicable documents and technical status

This instruction manual is only complete together with the applicable documents.

The following documents apply to this product:

- Battery data sheet
- Charger Data Sheet
- Warranty booklet

The operating instructions correspond to the technical state of the art at the time of going to press. Significant changes will be reflected in a new edition of the user manual.

The current version can be found at www.aerofoils.de.

# Warnings

Warning U Low risk level of endangerment. Can lead to minor or moderate injuries if not observed.

Caution Can lead to property damage if not observed.

Danger A Medium to high risk of hazard. Can lead to serious injury or death if not observed.

#### Other

The illustrations may differ from your e-foil and are to be understood as principle representations.

All directions such as "left", "right",

"forward" and "back" refer to the direction of travel of the sports equipment.

# Safety

# Disclaimer

Electric hydrofoiling (e-foiling) is a water sport with risks. It can lead to serious injury or death. The manufacturer is not liable for damage to property or personal injury, in particular not in the event of improper use or damage to property or personal injury to third parties. Unauthorized modifications to the e-foil and its accessories void the warranty claim.

# Protective equipment and safety instructions

Be sure to always wear a suitable helmet and life jacket when using the e-foil. Please also note the legal regulations of the country of use.

Before you start e-foiling, read this operating manual carefully and completely.

Danger 🛕

- Only move away from the shore as far as you can swim.
- Avoid physical contact with the sharp edges of the wing, mast and tail, especially their trailing edges and tips.
- Adhere to the right of way and distance rules and always keep a generous safety distance from other watercraft and water sports enthusiasts.
- If you lose control of your e-foil and/or can no longer hold on to it, do the following:
- Immediately release the throttle. If necessary, pull the magnetic kill switch. The drive stops within a few milliseconds.
- Always jump to the side. Do not jump forward under any circumstances, otherwise there is a risk of being run over by the e-foil.
- Try to land in the water as far away from the board, wings

and mast as possible.

- Note that the riding time of the e-foil is highly dependent on factors. These include wind and currents, the choice of wing, the rider's weight, speed or altitude.
- Find out about the weather conditions before each trip. Also consider changing weather conditions, including strong winds, storms, precipitation and fog.

#### Intended use

The e-foil must only be used in perfect and functional condition. It may not be used as a means of transport, or for pulling people or objects, nor may it be pulled by itself. The rider must not exceed a maximum weight of 120 kg.

Danger 🛕

Failure to comply with the following points can lead to considerable damage.

The e-foil is basically designed for the temperature range from 0 °C to 40 °C. However, this only corresponds to the possibilities of the product. Water sports can be dangerous, especially in extreme temperatures. The user is responsible for protecting and preparing himself. Furthermore, the following must be taken into account:

- Shipping rules and all legal regulations must be observed, for which this instruction manual does not provide any information.
- Extreme weather conditions, such as storms or heavy rain, are to be avoided. Waters with stronger waves are also to be avoided.
- Do not sail in contaminated or polluted waters.
- The e-foil must be ridden at a safe speed. It should be possible to react appropriately to unexpected dangers at any time. The requirement of a safe speed depends on visibility conditions, frequency and size of the water area being navigated as well as individual driving ability.

Intended use also includes the subsequent duty of care and other instructions for use. These can be found in particular in <u>Chapter 7 Operation</u>.

# Duty of care

The following measures must be followed to ensure safe handling of the e-foil:

The driver:

- has reached the age of at least 14 (unless otherwise required by the laws of the country of employment) and is in a healthy mental and physical condition.
- has received proper instruction before the first ride.
- has read the operating instructions carefully and completely and clarified questions with the operator or a specialist dealer. wears proper protective equipment.
- assumes all obligations of the operator in the event of the transfer of the e-foil.

It is the duty of care of the operator to plan the measures and control their execution.

The operator:

- makes this instruction manual available to the rider for the duration of the use of the e-foil. If necessary, he translates the operating instructions into a language that the driver understands.
- instructs the rider in the functions of the e-foil before the first ride. Only instructed riders are allowed to ride an e-foil.
- reminds the driver of the proper use and wearing of proper protective equipment.
- ensures that the rider is at least 14 years of age (unless otherwise required by the laws of the country of use) and is in a healthy mental and physical condition, and only appoints professionals to maintain and repair the e-foil and does not make any changes to the components on its own.

# Compliance with local regulations

Before using an e-foil, make sure that the water is suitable for this purpose (see Chapter 7 Operation) and whether driving is permitted. Please also observe national and regional regulations.

# Information on compulsory insurance

Depending on the local law, it may be mandatory to obtain a boat license plate and take out insurance. The user must take care of this himself.

# Security Marks

The following safety mark is used on the e-tron e-foil:



Follow the instructions

# Handling the battery

Warning When shipping your battery, pay attention to applicable regulations. Batteries are dangerous goods, which is why improper shipping is prohibited and dangerous.

Danger A Risk of fire and explosion due to short circuit. Small metal objects can bypass the battery's electrical connections. The batteries can self-ignite and explode. Paper clips, screws, coins, keys and other small parts should be kept away and not put into the battery.

- Risk of fire and explosion due to high temperatures.
  Temperatures that are too high can damage the battery.
  The battery can self-ignite and explode. Never expose the battery to continuous sunlight. Do not heat up the battery and keep it away from heat sources.
- The battery is not microwave or oven safe. In the event of damaged or defective batteries, the safety electronics may fail. The residual voltage can trigger a short circuit. The battery can self-ignite and explode. Take externally damaged batteries out of service immediately and never charge them. If the batteries deform or start to smoke, keep your distance, cut off the power supply and notify the fire brigade immediately.
- Defective batteries are dangerous goods. Dispose of defective batteries professionally as soon as possible (s. <u>Chapter 12</u>). Keep the batteries dry and never near flammable substances until disposal. Never open or repair the battery on your own.

Danger 📤 Electric shock in case of damage Damaged chargers, cables and plugs increase the risk of electric shock. Check the charger, cables and plugs before each use. Never use a damaged charger. The ambient temperature during charging must be in the temperature range of 10 °C to 30 °C.

Do not place the battery in a pressure-tight box. Exceptions to this can be transport and storage boxes specially designed for the battery.

# Warranty

For full information on the topics of service and warranty, please switch to the enclosed warranty booklet.

# Scope of delivery

# Scope of delivery



and the second s	
USB Charger	USB-C Cable

# Specifications

Accumulator

Detailed technical information about the battery can be found in the battery data sheet included in the drive bag.

#### Remote control

Weight	191g
Communication Tape	2.4 Ghz according to IEE802.11
Communication	App Connection, Wifi
Battery	Up to 8 hours
Charging time	3 h (0%-30% in 30 min)
Display	Sunlight-Readable High- brightness Color Display
Water protection standard	IP68, up to 2m
Battery cycles	>500 charging cycles
Storage	10 °C to + 30 °C (ideal) -20 °C to +50 °C
Operating temperature	-20 °C to + 60 °C
Charging temperature	0 °C to +60 °C
Other	Buoyant

Charger

For detailed technical information on the charger, please refer to the charger data sheet included in the drive bag.

#### Drive

Max. Recording Power	5.1 kW
Perm power	3.8 kW
Weight	approx. 7.4 kg
Pack size	78 x 76 x 15 cm

#### Inflatable e-foil

Volume	150 l
Dimensions (without bag)	150 x 72 x 15 cm
Weight	11 kg

# Initial commissioning

# Charging the remote control



# Procedure:

- Attach the Wireless Charger to the remote control by hooking it onto the underside of the handle of the remote control and snapping it forward against the edge of the display.
- 2. Now connect the USB-C charging cable to the USB power adapter.
- 3. Next, connect the USB-C cable to the wireless charger's charging socket. Now plug the power supply into a suitable socket
- 4. As soon as the remote is charging, a charging animation appears on the display. The charger shows a green pulsing light during the charging process. During the charging process, the display switches off automatically and can be reactivated at the touch of a button.
- 5. As soon as the remote control is fully charged, the pulsing light changes to a solid green light and a full battery is shown on the display.
- 6. The remote control should be charged to at least 30% before each ride.

Wireless charger color codes:

Flashing	Charger ready - power adapter
turquoise	supports fast charging function
	(Power Delivery)
Flashing blue:	Charger Ready - Standard Power
	Supply (No Power Delivery)
Magenta	Loader looking for remote control
Flashing green	Charging in progress
Green	Charging completed
Red	Error
LED off	No power adapter connected

# Charging the battery

Please refer to the battery and charger instruction manual for technical information and safety instructions.



Power/Check button (left)Charge level indicator (middle)High temperature (right)

Procedure:

- 1. Always charge the battery in a dry environment, away from flammable objects.
- 2. Connect the battery to the charger. Make sure to connect the colored plugs to the jack of the same color. First connect the two power cables (black and orange) and then the data plug.
- 3. As soon as the battery is charging, the charger indicator will flash green. Detailed information on different charging modes can be found in the charger data sheet.
- 4. Once the battery is fully charged, the charger and battery

will automatically shut off.

Note: Before each use, carry out a brief visual inspection for damage to the battery. The battery should be charged to at least 50% before each ride.

Danger 🛕

Risk of fire and explosion due to damaged battery or use of an incorrect charger.

Aerofoils GmbH assumes no liability for incorrect charging or for improper use of the battery. These include, for example, use at excessively high temperatures or charging with third-party devices.

# Inflating the board

- Choose a clean, flat area to place the board on top and spread it out. The valve is located on the underside in the front area.
- 2. Unscrew the valve cap counterclockwise.



3. Check the valve pin on the board by pressing it down. When pressed again, it should be in the up position, which means it's closed and air can't escape.



Valve open Valve closed

- 4. Connect the end of the hose to the valve of the board. Turn the hose clockwise until it is in place.
- 5. Start pumping. Use smooth, powerful movements to inflate the board quickly. Keep an eye on progress and check the pressure occasionally.

- 6. Inflate the board to **15 PSI** (1 bar). Use the pressure gauge on the pump to make sure you are reaching the correct pressure.
- 7. Once the recommended pressure is reached, stop pumping. Gently twist the hose counterclockwise to prevent air from escaping.
- 8. Now screw the valve cap back on. Your board is now ready for use.
- 9. Protect the board from direct sunlight and heat.

Tip:

To inflate up to about 10 PSI, switch the pump toggle to "Double":



To reach the final pressure of 15 PSI, switch to "Single".

# Mounting the actuator

Check the tightening torques of the wing, the empennage and the mast box during each setup. The screws and threads must be free of all dirt and sand. They are easy to grease regularly with the enclosed, environmentally friendly lubricant. Before each ride, check the wing, tailplane, mast, propulsion and board for damage.

# Caution 🕛

When assembling, always make sure that:

- all sealing surfaces and plug connections are free of sand and other dirt.
- O-rings and other seals are not damaged and will not be kinked or damaged.

Procedure:

1. Place the board on a soft surface with the battery compartment closed.



 Take the drive unit (mast) and guide it into the mast mount. The cables of the drive unit must point in the direction of travel. Make sure that the seal on the board is correctly seated. Now attach the mast with the four screws provided for this purpose (M6X20). Carefully tighten the screws crosswise with a torque of 8 Nm using the enclosed T-wrench.



3. Now the wing and the tail unit have to be mounted. It is recommended to remove the protective covers only immediately before the ride. Attach the stabilizer with the two mounting screws provided for this purpose (M6X20) and the wing with the three mounting screws provided for this purpose.

Ensure a torque of 8 Nm.

Screw size Easyride 2000: M6x35Screw size Easyride 1750: M6x30

# Connecting and inserting the battery

If the drive unit is mounted with wings, the board can be turned over. Look for a suitable surface beforehand (stony or sandy surfaces leave scratches on the board and wings) and place a soft surface (e.g. the board bag) underneath. Place the board so that the board tip and wing leading edge touch the ground.



Caution 🕛

The e-foil must never be in the water with the lid open.

- Before you put the e-foil in the water, always check that the lid is properly sealed. You can recognize this by the fact that the lid surface forms an almost flat surface with the board surface and the two closures are also completely locked.
- Never open the lid while the e-foil is in the water.



Avoid touching or short-circuiting the battery's contacts. This can lead to an electric shock.

Procedure:

1. To open the lid of the board, the latches of the latch must be lifted and rotated 180°. Open the lid as far as possible without major force (max. 90°). Now the battery compartment is accessible.

2. Take the battery by its handle and carefully place it in the battery compartment. The battery should be placed flat and flush in the compartment on all sides. Check the location of the battery connectors. They must lie on the side where the cables of the mast come out of the mast holder.



3. Now connect the cables of the battery to the battery. Check that they are free of dirt and corrosion. First connect the two power lines (black and orange) and then connect the data line with a firm pressure. It is important that you always plug the plugs onto the matching socket. Press the plugs firmly until you feel a distinct click.



Data Connector Power Cables



When inserting and connecting the battery, avoid that:

- seals or plugs can be damaged.
- power lines can be bent.

4. After the battery is connected to the e-foil, the lid must be closed and then locked. Push the lid down, turn the caps 180° and close them. This requires a certain amount of effort. If this is not the case, repeat the process with the closures rotated 180°. This activates the e-foil. If connected correctly, an acoustic signal will be heard.

Note: You should not run the motor of the e-foil in the dry for more than a few seconds. Do this for testing purposes only. Otherwise, the engine can suffer considerable damage. Do not reach into the drive components with your hands.

The e-foil is not intended to be used in residential areas and cannot ensure adequate protection of radio reception in such environments. How to use: First steps

The remote control is operated via the three control buttons:  $\nabla \equiv \Delta$ 



In addition, the remote control has a lever on the side opposite the display, which is used to regulate the speed.



Turning the remote control on/off

You turn on the remote control by pressing 3 seconds  $\equiv$  until the home screen appears. To turn off the remote control, press for 5 seconds  $\equiv$ .

Tip:

Turn on the remote control before inserting the battery into the board so that the GPS module has enough time to find a signal.





Turn on

Switch off

Split screen

All screens follow the same structure:



#### Status bar

In the status bar, you'll see the following icons:

Designation	Symbol	Function
Clock	21:41	Displays the time (time zone adjustable in settings)
Lock	ð	Indicates if the motor is locked
Warning/ Error	A	Indicates whether a piece of information, warning, or error is still active
App Connection	Q	Displays the current App Connection status: blue icon: Phone is connected
GPS	-	Displays GPS status: speed & position available
Battery	, , ,	Displays the current battery level of the remote control: White: More than 30% (over 3h driving time) Yellow: 10-30% (between 45min and 3h driving time)
		Red: Below 10% (under 45min driving time)

Soft reset of the remote control:

The remote control can  $\equiv$  perform a soft reset for more than 15 seconds by pressing .

Only do this in the case of incomprehensible error displays.

# Switching screens

The remote control has multiple screen displays. To switch between them, you need to  $\equiv$  press and hold for 2 seconds.



Start screen, driving screen, on-board computer

#### Home

The e-foil offers you three different riding modes in the home screen. By pressing △ and ▽ you can switch between them.

With the help of ,  $\equiv$  you can set the driving mode.

# Tip:

For beginners, "going to Fly" is recommended. In this riding mode, the e-foil accelerates more smoothly. "Nice & Smooth" is suitable for advanced riders and "Rocket Ride" for experienced riders.

Battery indicator

On the home screen, the information area shows you the current battery level (as a percentage) of your board.

Battery indicator

When the battery level is changes color. When the



əry icon ;al (<10%), the navigation bar is colored red. If no board is connected, either the last recorded battery level (gray coloring) or "-" is displayed.

Driving screen

Selecting and confirming the driving mode with  $a \equiv click$  will take you to the driving screen.

Overview of the driving screen



If the remote control cannot connect to a board, the immobilizer is activated.

The immobilizer is also displayed once as a pop-up window when switching to driving mode and every time it is activated.



The immobilizer is activated by:

- a fall (with submersion of the remote control).
- an inactivity of 10 seconds (configurable in the menu).
- when pressing the  $\bigtriangledown$  button for 2 seconds.

You can deactivate the immobilizer by pressing the  $\bigtriangleup$  button on the remote control.

#### Levels

In addition to the various driving modes, power levels can also be set and thus the maximum power of the engine can be regulated.

- By pressing  $\triangle$  and  $\bigtriangledown$  the power levels can be adjusted.
- Press △ for 2 seconds to set the maximum power level.
- Press 
   ¬ for 2 seconds or pull off the emergency stop briefly to activate the immobilizer.

# On-board computer

The on-board computer compiles an overview of the data of your journey. Pressing will  $\equiv$  display different datasheets.

#### Overview of the board computer

21:41	* 🕈 💼	
TRIP	SPEED	
1 h 17 min 46,9 km	# 29,4 km/h Ø 21 km/h	
FLIGHT TIME	ENERGY	
59 min 81 %	3,8 Wh/km Ø 1,7 Wh/km	•
c	00	

- Travel time and distance travelled
- % of the flight time of the total time maximum and average speed
- Efficiency of the last 500m
- Battery charging efficiency

#### Settings

Pressing the button for a very long time  $\equiv$  will take you to the power off menu.



Under the menu item "Settings" further settings can be made. With the help of  $\triangle$  and ,  $\nabla$  the corresponding setting can be selected or changed and saved by pressing .  $\equiv$  For multidigit parameters  $\triangle$ , a $\bigtriangledown$  power of ten can be shifted by holding down and (at least 2 seconds) the cursor.

# Connecting the remote control to the board

After software updates or a service case, it may be necessary to reconnect the remote control to the board. (= Pairing) Before you start the pairing process, the board should be fully assembled. However, the battery compartment must still remain open. Now select the "Pairing" sub-item in the "Settings" settings menu. You start the pairing process by using the "Pair new Board" option. Now follow the instructions that appear on the display.

- 1. Pop-up window with instruction 1: "Close the lid of the battery compartment".
- 2. After closing the battery compartment, a pop-up window follows with instruction 2: "Open the battery compartment".
- 3. After opening the battery compartment, a pop-up window follows with instruction 3: "Close the battery compartment".
- After closing the battery compartment, the pairing process is over. If successful, a pop-up window ("Pairing successfully completed") will follow for confirmation.

If an error occurs during the pairing process or if the process is aborted by confirming the "Abort" pop-up window, any previously existing pairing will be retained.

# Connection to the app

First, install the Aerofoils app, which can be found in your AppStore. Now select the "Phone Connection" sub-item in the settings menu on the remote control. Here you can connect your mobile phone using the "Pair new Phone" option (you may have to activate the Phone Connection yourself first  $\equiv$ ).

1. Scan the QR code displayed on the remote control in the

Aerofoils app to initiate the connection.

- 2. The app confirms that the connection has been successfully established.
- 3. If you want to connect another mobile phone, a QR code must be generated again using "Pair new Phone". Each QR code contains an individual key.

In the app

An account must be created to use the app.

Pop-Up Window

Events are displayed in the app by pop-up windows. In principle, there are three event categories to distinguish:

- Information: contain further information for the driver.
- Warning: give statements that may have an impact on system performance, such as drive throttling when the battery level is critical.
- Error: indicate a problem. For more information, see <u>Chapter 13</u>
### Settings

Menu	Option	Explanation
Power Saving	Screen Timeout	On: Screen will turn off
· · · · · · · · · · · · · · · · · · ·		after a certain time to
		save power
		Off: Screen is always on.
Power Saving	Timeout Duration	Time for the screen to
· · · · · · · · · · · · · · · · · · ·		turn off
Power Saving	Power Timeout	Time until the remote
r offici suring	roner micout	control switches off when
		not in use
Comfort	Lock when Falling	On: Motor is locked as
	g	soon as the user falls into
		the water
		Off: The engine remains
		permanently armed
	Lock on Startup	On: after each restart, the
	Lock on Startup	engine is locked
		Off: the engine is
		immediately armed after
		restarting
	Auto Lock	On: The motor will
	Auto Lock	automatically lock after a
		period of time without
		use
	Adjust Lock	Time until the motor is
	Adjust LOCK	automatically locked
	Double Gears	At: 20 Power Level
	Double Gears	Off: 10 Power Level
	Allow Reverse	On: The board can go
	Allow Reverse	backwards with a long
		press of the "arrow up"
		button if the motor is
		previously locked =>
		retrieve the board after a
		fall.
		Off: The board can only
		move forward.
System	Cleanup Database	Deletes all trips stored on
System	Cleanup Database	this remote. Warning: All
		trips that are not
		synchronized with the
		app will then be deleted.
	Reset User Config	Resets all settings,
	Reset User Coning	including smartphone
		pairing
	Depat Lindata Sustain	Resets the entire
	Reset Update System	
		memory, including the
		trips that have not yet
		been synchronized.
	Calibrate Throttle	Starts the trigger
		calibration: within 10

	seconds, tighten the trigger several times until it stops and slowly release it again.
Advanced Link	Enables a second data channel with the board to improve connection stability.
Share Service Data	Option to share service data with Aerofoils. If necessary, contact the service.

### Speed limiter

In the "Speed Limiter" menu item, the speed limiter can be activated and the maximum speed can be set.

Attention: The speed limiter only works with GPS reception! If the speed limiter is activated without GPS reception, a message appears on the display that driving is currently not possible.

Depending on the operating mode, the speed limiter behaves differently:

"going to Fly"

The "going to Fly" mode with active speed limiter is especially recommended for beginners. In addition to the maximum speed, acceleration is also limited here. The user can simply pull the throttle through and the electronics do the rest. The maximum power is specified by the user through the trigger and the gear level. The electronics never regulate higher than specified by the user.

**Tip:** As long as the e-foil is not flying, always stand as far forward as possible

"Rocket Ride" and "Nice and Smooth"

In these two modes, only the maximum speed is limited. If the user accelerates too much, the power is automatically reduced by the electronics. The maximum power is specified by the user through the trigger and the gear level. The electronics never regulate higher than specified by the user.

### Operation

Instruction before the first ride and supervision during the first ride by one of our partners or dealers is highly recommended. For the first assembly after transport or storage, go to <u>Chapter 6 (Initial Commissioning –</u> Assembly).

### Choosing a suitable body of water

Danger 🛕

Failure to comply with the following points can lead to considerable damage. Pay attention to the following:

- To avoid contact with the ground of the e-foil, the water should be at least about 1m deep throughout. In addition, take into account that the e-foil has a higher diving depth when you are on it.
- Sandy soil can also lead to damage to the e-foil. The impeller in particular can suck in sand and smaller objects or stones due to its suction effect and can be damaged as a result.
- Also pay attention to submerged and floating objects such as branches, rocks, boat chains, fishing lines and keep a sufficient distance from them.
- Avoid waters with strong currents and pay attention to the tides if necessary (currents and water depth can change drastically). If you are not sure, be sure to ask people who know the area.
- For beginners, calm water and little wind are advantageous.

### General information for safe operation

- Before you start e-foiling, read this operating manual carefully and completely.

- Only move away from the shore as far as you can swim.
- Avoid physical contact with the sharp edges of the wing, mast and tail, especially their trailing edges and tips.
- Adhere to the right of way and distance rules and always keep a generous safety distance from other water sports enthusiasts.
- If you lose control of your e-foil and/or can no longer hold on to it, do the following:
  - Immediately release the throttle.
  - Always jump to the side. Do not jump forward under any circumstances, otherwise there is a risk of being run over by the e-foil.
- Try to land in the water as far away from the board, wings and mast as possible.
- Note that the riding time of the e-foil is highly dependent on factors. These include the choice of wing, the rider's weight, the speed or the flight altitude.
- Find out about the weather conditions before each trip.
   Also consider changing weather conditions, including strong winds, storms, precipitation and fog.
- Do not use the carrying handles of the e-Foil to tow the board or pull people with it.

In addition to this guide, we encourage you to check out our how-to-use videos and other helpful documents on our social media channels and website. Make sure that you have internalized and observed everything above from this manual (especially 7.1 Choosing a suitable water body and 7.2 General tips for safe operation).

Danger

Failure to comply with the following points can lead to considerable damage. Pay attention to the following:

#### Transport of the e-foil into the water

The following two options are recommended for transporting the e-foil into the water:

- Carrying the e-foil on your shoulder: Kneel carefully under the e-foil that has been set up. Position your shoulder in front of the mast and embrace the board on the side edges. Now you carefully stand up and can carry the board into the water.
- Carrying the e-foil on the side of the body: Place the board on the side. Position yourself in front of the drive unit and now grasp the mast with your hand facing away from the board. The hand facing the board grips the side carrying strap of the board. Now lift the e-foil out of the legs and carefully carry it into the water.

When you have reached a sufficient depth (at least 1.5 m), you can carefully place the e-foil in the water. Attention: When carrying the e-foil, pay attention to the sharp edges of the mast and the drive unit.

### Learn e-foiling

Go through all the following steps in the dry first.

- Attach the remote control to your wrist using the attached loop. Start in the "going to Fly Mode" mode.
   First, set the third power level so that the power output is limited. The engine should still be locked for the time being. Wait for a GPS signal to be received.
- 2. Push yourself belly from the rear of the board into a

qaze always in the travel. a

central lying position. The should be directed direction of To maintain stable position, you

should also support yourself with your forearms on the top of the board. The free hand can grip the front edge of the board. They should be able to part with the board at any time.

- 3. Unlock the engine with ∇. Start holding down the lever of the remote control in a measured manner. The e-foil is now starting to drive. Develop a feeling for the acceleration of the e-foil. Feel safe, keep accelerating. Attention: Shift your weight further forward as your speed increases. This will prevent the e-foil from taking off. By shifting weight to the left, curves can be driven. Now practice driving the e-foil on the surface of the water in a controlled manner.
- 4. If you can safely ride lying down on the surface of the water , you will now learn how to stand up. Cruise

on the water at a low, constant speed. Slowly straighten up by slowly pushing your knees forward on the board and finally putting one foot up. The foot should be positioned in the front area of the board so that it can exert constant pressure. If you have a secure feeling and your body is in balance, now slowly stand up over the front foot. You can support yourself on the board with your hands. Once you have straightened up, continue to apply pressure to the board with your front foot so that it does not lift off. The front leg is slightly bent. The rear leg serves to stabilize. To support balance, the back foot can also be placed transversely (toes point perpendicular to the direction of travel).



5. Only when you ride safely standing on the board can you accelerate further and bring the board from the displacement ride to planing. Set  $\Delta \bigtriangledown a$  power level with and where you drive about 15 km/h with the throttle fully pressed. Continue to provide sufficient pressure on the front foot. Then carefully relieve the front foot. The e-foil will now take off! As soon as you "fly", immediately put more weight on the front foot again so as not to get too high. The wing must always be below the surface of the water to avoid falls. Due to the lower resistance in flight, the e-foil will now accelerate. Reduce the speed with  $\bigtriangledown$  to no more than 20km/h for starters.

Attention: If you reduce the thrust too much or too abruptly, the e-foil will fall back to the surface of the water. You control the flight altitude and cornering by shifting your weight.

» Shift the body's centre of gravity to the front foot: You steer the e-foil towards the surface of the water.
» Relief of the front foot: They favor take-off or will fly higher

Note: Try not to fly too high at the beginning so that you can always land quickly. Always put weight on the front foot. Also make sure that the wing does not break through the surface of the water while driving. This can lead to an abrupt fall. Initially regulate the speed with the throttle fully depressed with  $\triangle$  and  $\nabla$ . More advanced users can later regulate the speed faster and more precisely via the throttle.



Notes on how to avoid injuries such as cuts, bruises and bruises:

- Immediately release the lever of the remote control.
- Always jump to the side. Do not jump forward under any circumstances.
- Try to land in the water as far away from the board, wings and mast as possible.
- Always wear a helmet and a protective vest.

### After operation

- 1. When you have finished your ride, lock the engine or turn off the remote control.
- 2. Now carry the e-foil out of the water and place it on a flat surface on a soft surface.
- 3. Now also switch off the e-foil by opening the battery compartment and unplugging the data plug and the power cables. By pressing the small button on the plug, it is unlocked and you can detach the power lines from the battery.
- 4. Take out the battery.
- 5. Bring the battery door to the drainage position. To do this, you have to turn the closures of the battery flap 180° and lift the battery compartment slightly. Now turn the closures 180° in the opposite direction again. The battery compartment thus snaps back into place in a slightly open position.



Note: When opening the battery compartment with the battery inserted, the board must be standing on the nose and the wing. In other positions (e.g. lying on the side) there is a risk that the battery will fall out and the cables or plugs will be damaged.

Note: Do not flip the board over with the battery compartment open and the battery inserted, as there is a risk of the battery falling out.

Note: Rinse all components thoroughly with fresh water (especially after salt water operation). For detailed instructions on how to clean the battery, please refer to the battery data sheet.

### Dismantling, transport, storage

### Dismantling

To disassemble the e-foil, all you have to do is carry out the steps of assembly in reverse order (cf. <u>6.3 Assembly</u>). It is advantageous to put the protective covers of the wings back on beforehand to protect yourself from the sharp edges and the wings from damage.

#### Transport

The e-foil should always be transported in the accompanying transport bags. The battery can always be removed from the board. This ensures maximum protection and manageability.

### Storage

The e-foil must be removed from the water after each operation. It is not suitable for storage in water. All components must be stored free of dirt, dry and salt-free. For this reason, when operating in salt water, rinsing with fresh water is necessary before each disassembly. Do not use compressed air or high-pressure cleaners to avoid damaging the paintwork and seals. Unsuitable cleaning agents must also not be used (cf. <u>4 Warranty</u>).

### Long-term storage general information

If you store your e-foil for more than 4 weeks, the following things must be observed in addition to the normal procedure:

 Carry out a thorough cleaning of the individual components before any longer storage. Do not use harsh cleaning agents, such as cold cleaners or wheel cleaners. You can use conventional car cleaners. Never use solvents.

- Allow your e-foil to dry out well after cleaning (cf. <u>7.4 After</u> <u>operation</u>).
- For winter storage, it is advisable to clean all electrical contacts with contact cleaner and preserve them with environmentally friendly, water-resistant grease or special contact oil. (cf. <u>4 Warranty</u>).
- Clean the battery thoroughly and then let it dry well (see battery data sheet).
- The battery charge level must be checked every 4 weeks.
   An optimal storage condition is between 20-30%.
- The battery should not be stored below -5 °C.

### Long-term storage board and foil

Loosen all screw and plug connections that you had to assemble during the initial assembly (cf. <u>6.3 Assembly</u>). Clean these compounds by rinsing them with fresh water.

Make sure that all parts, especially the deck pad of the board and all cavities, are dry. After complete drying, you can easily wet the screws with an environmentally friendly grease. The board can be stored at a maximum pressure of 0.3 bar.

### Long-term storage battery

For long-term storage, the battery charge level should ideally be between 20 and 30% (2 LEDs light up at the touch of a button), as mentioned in 8.4. (see Charging/discharging to stock voltage in the charger data sheet. Check the battery level every 4 weeks and recharge it if necessary. You should avoid completely discharging the battery.

### Long-term storage remote control

A battery level of between 20 and 30% is also recommended for storing the remote control.

### Maintenance and care

Danger

Always make sure that the battery is completely disconnected from the e-foil before any maintenance and care work. Consider all warnings to avoid serious and life-threatening injuries.

Compulsory work	Chapter	before every ridel	after each ridel	every 100 hours or 1x a yearl	every 300h or 2-yearly
Visual inspection for damage: Wing, Tail, Mast, Propulsion, Board	<u>6.3</u>	x			
Visual inspection for damage: remote control	<u>6.1</u>	х			
Visual inspection for damage: Battery	<u>6.2</u>	х			
Inspection for clearance: hinges and closures Board	<u>6.3</u>	х			
Checking for freedom of movement: Remote control lever, remote control button	<u>6.1</u>	x			
Battery and remote control charge level check	<u>6.1</u>	х	х		
Testing of sealing elements: mast to board, sealing of the board lid	<u>6.3</u>	x			
Tightening torque test: Wings, tail and mast	<u>6.3</u>	х			
Checking for a fixed fit: wing, tail and mast	<u>6.3</u>	x			

Visual inspection of plug connections: Clean dirt with	<u>6.4</u>	Х		
contact spray2				

				0	
Compulsory work	Chapter	before every ride'	after every ride'	every 100 hours or 1x a year'	every 300h or 2-yearly <sup>3</sup>
Visual inspection of cables: kink-free installation and perfect condition of the insulation	<u>6.4</u>	x			
Freshwater flushing of all components with the exception of the battery	<u>8.3</u>		х		
Cleaning the battery	<u>7.4</u>		х		
Leak test battery compartment cover (a few drops allowed, but not complete water entry)	<u>7.4</u>		x		
Drying of all components	<u>7.4</u>		х		
Clean screws, threads and hinges if dirty and wet with "Corrosion X"	<u>6.3</u>		х		
Control mast clearance	<u>9.4</u>			х	
Replacing the sacrificial anode	<u>9.3</u>			Х	
Visual inspection of impeller, stator, nozzle	<u>9.1</u>	x			
Service drive: Replacement of sealing elements, operating materials and individual drive parts					0
Reading out fault memory					0

<sup>1</sup>: or abnormalities during operation

<sup>2</sup>: "Corrosion X"

<sup>3</sup>: First after 9-12 months

x: to be carried out by the operator o: To be supported by dealers or Aerofoils

# Replacement of the impeller after damage. Significant risk of injury

If the nozzle at the end of the fuselage is removed while the battery is connected to the e-foil, it can lead to serious injuries.

- Therefore, always completely disconnect the battery from the e-foil before removing the nozzle.

- Never interrupt your work without reattaching the nozzle. The engine must never be started without the nozzle mounted.

During this repair work, it is particularly important to make sure that the battery is completely disconnected from the e-foil. Note: This work is only to be performed by customers with a technical background.

- 1. Turn the nozzle counterclockwise.
- 2. Remove the stator counterclockwise with special tools.



- 3. Loosen the nut by holding it against with a 4mm Allen wrench.
- 4. The impeller can now be removed with the special tool. To do this, screw in the three M3 screws completely. Then screw in the middle screw until the impeller is free.



- 5. Clean all components that will be reassembled. Lightly grease all threads.
- 6. Attach the impeller and tighten it with an M8 nut, ensuring a torque of 10 Nm by holding it back.
- 7. Then mount the stator (lightly grease) and nozzle clockwise.

#### **Repair Board**

If the board has any damage that could limit function or cause a leak, take it out of service immediately and allow it to dry. Have your board repaired exclusively by experts with experience.

If your board has damage in the area of the mast mount or the battery compartment or its sealing surfaces, be sure to contact Aerofoils customer service.

Replacement of the sacrificial anode

Every 100 hours of operation or once a year, you should replace the sacrificial anode on the drive unit. To do this, remove the screw and replace it.

Control mast clearance

Build the board and drive according to <u>chapter 6.3</u>. Now turn the board over on a soft surface so that the EVA deck is facing the ground. Now move the mast alternately with a force of max. 5 kg in 90° to the direction of travel. You should not feel any play in perfect condition.

### Removing the Anti-Breach System

The Anti-Breach System (ABS) helps prevent sudden take-off from the water when accelerating with the jet drive. This function is a valuable support, especially for novice drivers.

However, experienced drivers have the option of deactivating the ABS. For this purpose, the system can be dismantled quickly and easily.

Anti-Breach System

The ABS is located on the top of the drive:

Anti-breach system in detail:



### Dismantling:





When reinstalling the ABS, make sure that the M5x18 Torx screw is secured with threadlocker, e.g. Loctide 243, medium-tight. Pay attention to the curing time of 24 hours.

### Converting the Airfly for a Hyperbar

You have the option of driving your Airfly with the optionally available handlebar (Hyperbar). To do this, their Airfly board has to be converted once.





Place the adjustment plate between the two supports. Push the wedge into the gap between the support and the battery compartment. With the battery compartment closed, press the wedge down evenly. As a result, the rear bearing block slides forward, so that it no longer has any play. In this position, screw the bearing block tightly. Make sure that the bearing block does not shift when tightening. Test the correct fit of the Hyperbar now: Now remove the adjustment plate and swivel the Hyperbar. Turn the screw cap to the "closed" icon. Try to move the Hyperbar forward and backward.

If there is still a noticeable play or the screw cap is too difficult to operate, the closing force must be adjusted on the Hyperbar. Follow the instructions "Replacing the Safety Lock of the Handlebar "





When riding without a Hyperbar, a coverplate must always be installed to prevent injury.

#### Instructions Hyperbar

All information such as charging and operating the Hyperbar can be found in the <u>Hyperfly manual</u>.



## Self-help/troubleshooting

### Remote control

The remote control will turn off automatically.

- Check the battery level of the remote control.
- In the settings under "Battery Saving" --> "Power Timeout", adjust the idle auto shutdown time in case an auto shutdown occurs too quickly for your needs.

The remote control won't turn on.

- Charge the remote control.
- If the remote control is not used for a long time
   , the charging process is briefly haptically confirmed when
   plugged in. It can take up to 15 minutes for the charge level
   to appear on the display.

The remote loses the signal in the water.

- Check the battery level of the remote control and the e-foil.
- The signal can be interfered with if the remote control and the board are submerged for too long/deep underwater.

The remote control does not connect to the e-foil.

- After a software update, a new pairing may be necessary.
- Re-pair. (cf. <u>6.5</u>)
- Check whether the plugs in the board are inserted correctly and have contact, clean the contacts if necessary.

The remote control loses connection to the e-foil if:

- an unpair is performed in the menu.
- a new board has been connected in the meantime.
- the board has been connected to another remote control in the meantime.

Repeat the pairing. Instructions can be found in <u>chapter</u> 6.5.

### Battery and e-foil

Water has penetrated the battery compartment.

- Check the battery compartment and mast seal. Watch out for any kind of contaminants, such as sand and damage.
- Check that the battery compartment closes completely and that the battery sits correctly and evenly in the board. Check the contact pressure of the closures. If necessary, clean the support surface of the battery.

The e-foil simply switches off while riding.

- Come back to shore as soon as possible and open the battery compartment.
- Check the remote control for error messages and check if it is possible to connect to the board.
- Check that the data line is plugged in correctly.
- Make sure there is no dirt or water between the data lines.

Can I continue to use my battery after I drop it?

- Contact Aerofoils support and do not continue to use the battery.

There is damage to the power lines.

- Contact Aerofoils Support.

### Drive

The drive has dropouts or too little thrust.

- Unplug the battery.
- Check for rocks, sand, or other

contamination has become trapped in the drive.

- Clean the drive with fresh water.
- If there is no contamination or damage, clean or replace the impeller/stator or contact Aerofoils Support.

Danger 🛕

Always check the actuator with a sufficient safety distance. Never look into the rear nozzle opening while starting the engine.

Only clean or replace the impeller/stator when no battery is connected! Also make sure that other people are far enough away from the drive of the e-foil. Foreign objects and solids such as dust, chips, splinters and grains can be accelerated and fly out of the nozzle. This can lead to damage to the eyes and other parts of the body.



Only run the drive in the dry for a maximum of 10 seconds. Do not put objects or your hands in the drive. Make sure that no hair or the like is pulled in.

### Contact in case of service

Aerofoils GmbH Brauneckweg 14 85748 Garching

Phone: +49 9251/438890-01 E-mail: support@aerofoils.de

An overview of their local dealer network can be found at: www.aerofoils.de/support

### **Disposal and recycling**

The e-foil, the battery, the remote control and the charger are recyclable materials. In accordance with the applicable legal regulations, they must be disposed of separately from household waste and recycled.

Separate professional collection and recycling conserve raw material reserves and ensure that all regulations for the protection of health and the environment are complied with when recycling the product and/or the battery.

- Never disassemble the e-foil, battery, remote control or charger for disposal.
- The e-foil, the remote control, the unopened and undamaged battery and the charger can be returned free of charge to any specialist dealer. Depending on the region, other disposal options are available.

Danger 🛕

Risk of chemical burns to the skin and eyes

Damaged or defective batteries can leak liquids and vapors. These can irritate the respiratory tract and lead to burns.

- Never come into contact with leaking liquids.
- In case of eye contact or discomfort, consult a doctor immediately.
- In case of contact, rinse the skin immediately with water.
- Do not inhale vapors.
- Ventilate the room well.

Danger 🛕

Risk of fire and explosion

In the event of damaged or defective batteries, the safety electronics may fail. The residual voltage can trigger a short circuit. The batteries can self-ignite and explode.

- Take externally damaged batteries out of service immediately and never charge them.

- If the batteries deform or start to smoke, keep your distance, cut off the power supply at the socket and notify the fire brigade immediately.
- Never extinguish damaged batteries with water and do not allow them to come into contact with water.
- Defective batteries are dangerous goods. Dispose of defective batteries professionally as soon as possible.
- Keep the batteries dry and never near flammable substances until disposal.
- Never open or repair the battery on your own.

If you have any questions about recycling, our support will be happy to assist you.

### Errors, warnings, information

Display	Category	Explanation
No Board Paired	Info	There is no board connected
Pairing Succesful	Info	Connection of the board successfully
Motor Locked	Info	Engine locked. △ press to unlock
Battery 50%	Info	50% battery remaining
Battery low	Info	20% battery remaining
Battery Remote 50%	Info	50% battery of the remote control remains
Battery Remote low	Info	< 2 h battery of the remote control remain
Battery critical low	Warning	10% battery remaining
Battery empty	Warning	Battery empty, motor shuts down
Battery Remote critically low	Warning	< 30min battery of the remote control remains, power saving mode is activated
Drive System High Temperature	Warning	High temperatures in the drive, until cooling, the power is reduced
Remote High Temperature	Warning	Remote control threatens to overheat
Battery High Temperature	Warning	Battery threatens to overheat, motor shuts down
Water Ingress Drive Unit	Warning	Water has been detected in the drive unit, contact support
Drive System Overtemperature	Error	Overheating in the drive, let the drive cool down and try again
Remote Overtemperature	Error	Remote control overheated, let the remote cool down and try again
Battery Overtemperature	Error	Battery overheated, allow the battery to cool down and try again
Battery Communication	Error	Battery communication error, try reconnecting the board or

Error		contact support
Drive Unit Error	Error	Drive unit failure, try reconnecting the drive unit to the board or contact support
Water Ingress Battery	Error	Water has been detected in the battery, contact support
Water Ingress Remote Control	Error	Water has been detected in the remote control, contact support