

ABISSA

User manual

Read before usage



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Thank you for choosing Abissa.
We wish you fair winds and safe anchoring.

Preliminary Information

Before using Abissa, read the manual in full and ensure that all users are familiar with the procedures for opening, locking, deploying, retrieving, and maintaining the anchor.

Safety warnings

- Abissa's release mechanism is spring-loaded: the sudden movement of mechanical parts may cause impact injuries, crushing, or other harm if the anchor is not handled with care.
- Always keep hands, feet, clothing, ropes, and other objects away from the flukes, the base, and all moving parts of the mechanism.
- Never force the mechanism with your hands or tools unless strictly necessary. Any adjustments or resetting operations must be carried out in accordance with the procedure described in the manual.
- When retrieving the anchor on board, wait until it has stabilized before bringing it close to the bow or lifting it onto the deck.
- Do not use Abissa in extreme conditions or in situations where the model, rope, chain, or shackle is not appropriately sized.

Prohibitions and limitations of use

- Use by minors is prohibited.
- Do not allow inexperienced persons to use Abissa without the supervision of a competent adult and without having read the manual.
- Do not use the anchor to lift people, animals, suspended loads, or for purposes other than anchoring recreational vessels.
- Do not use components that are damaged, deformed, corroded, or incompatible with the weight of the anchor and the size of the vessel.
- Do not transport or stow Abissa with the flukes free to move.

Checklist before transport and descent

- ☐ Ensure the Abissa model is suitable for the length of the vessel and the anchor line used.
- ☐ Check that the rope, chain, and shackle are intact, properly tightened, and of adequate size.
- ☐ Check that the flukes are not deformed or impeded.
- ☐ Check that the sliding locking ring moves correctly and reaches the intended position.
- ☐ Before transport and storage, close the flukes towards the spindle and replace the ring over the flukes in the rest position.
- ☐ Before lowering, open the flukes, bring the ring back into contact with the base, and rotate it firmly to avoid accidental movement.
- ☐ In strong winds or very rough seas, consider inserting the safety locking pin.
- ☐ Make sure the lowering area is clear of people, lines, objects, and parts of the vessel that could be hit.

WARNING: The risk of accidental impact can be reduced by using Abissa in accordance with the instructions. Zefmar S.r.l. accepts no liability for any direct or indirect damage to property, persons, or animals resulting from improper, careless, or non-compliant use of the product.

Quick Start Guide

This section provides a brief overview. For proper use, always follow the detailed procedures in the following sections.

- **Anchor Preparation:**
Connect the anchor line to the upper cicada using a suitable shackle; then connect the chain and rope according to the recommended dimensions.
- **Opening the Flukes:**
Lift the sliding ring along the spindle and allow the flukes to open to the working position.
- **Locking:**
Bring the ring back towards the base of the flukes and rotate it firmly, so as to limit accidental movement during lowering.
- **Lowering:**
With the vessel stationary or slightly drifting, lower the anchor; extend the line/chain evenly to the bottom.
- **Anchoring Trim:**
Avoid immediately tensioning the line; as a guideline, extend at least three times the depth, increasing to about five times in windy conditions or for more stable anchoring.
- **Routine Retrieval:**
Bring the vessel directly above the anchor, gradually recover the line, and raise the anchor, paying attention to any oscillations.
- **Freeing the anchor:**
If the anchor is stuck, stand upright, tighten the line, and apply a firm upward pull to activate the release system.
- **Recovery and stowage:**
After retrieving, rinse if necessary, close the flukes toward the spindle, and secure them with the ring before stowing the anchor in the locker.

Getting to Know Abissa

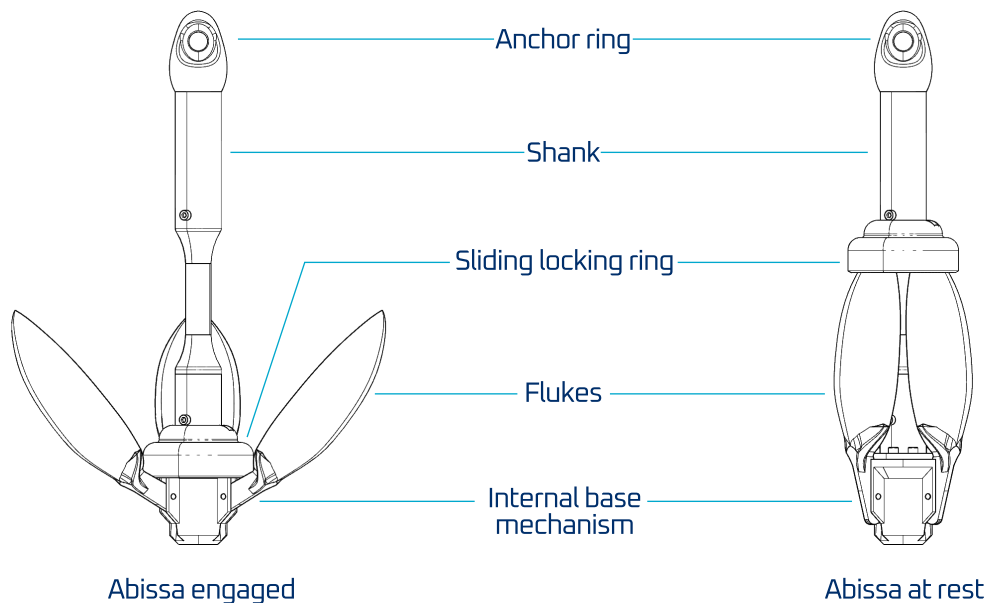
Abissa is a compact, foldable anchor inspired by the geometry of grapnel anchors, but designed to improve snag management and increase effectiveness on different seabeds.



Abysa in working position

Technical plan: front and side views

The following views help identify the main components for use, inspection and maintenance.



Main components

- **Flukes:** the three moving parts that rest on the seabed and ensure the anchor's hold.
- **Shank:** the elongated main body of the anchor, connected to the anchor line.
- **Anchor ring:** attachment point for the shackle, chain, and line.
- **Sliding locking ring:** element that allows the flukes to be secured in the resting or working position.
- **Base with internal Abissa mechanism:** home to the patented release system.
- **Lower Anchor ring:** point dedicated to the buoy or recovery line, also useful in the event of a snag with the safety pin inserted.

The differences with other anchors

Abissa is inspired by grapnel or umbrella anchors, prized for their compact size and good hold on rocky bottoms. The compact, foldable design allows for optimal stowage even in cramped lockers. The main difference is the introduction of an internal mechanism designed to facilitate recovery in the event of a snag.

- **Three flukes instead of four:** eliminating one optimizes weight distribution and penetration.
- **120° fluke angle:** promotes geometric stability on the bottom.
- **Increased concavity:** increases the bearing surface and the ability to grip soft bottoms, reducing slippage.

The patented internal mechanism

The technological heart of Abissa lies in the mechanism housed within the base and spindle, designed to exploit the physics of anchoring and reduce the risk of permanent snagging.

- Under normal conditions, the mechanism ensures the vessel remains stable even in moderate wind and rough seas.

- In the event of a snag, a vertical force applied by the boat releases the mechanism, allowing the flukes to open to an angle of approximately 180° relative to the spindle.
- This opening allows the anchor to overcome the obstacle and free itself, reducing the risk of permanent snagging.

The safety lock pin

Abissa is equipped with a separate safety pin, which can be manually inserted on board. The pin blocks the internal mechanism and temporarily transforms Abissa into a traditional anchor, preventing the flukes from opening.

Recommended use: We recommend inserting the locking pin in very rough seas or strong winds to prevent the force of the waves from simulating a manual pull and triggering the release mechanism unintentionally.

Recovery line attachment

Abissa is equipped with a dedicated attachment point for a buoy or recovery line. This eyelet, also known as a lower cicada, is designed for use with the locking pin: in the event of a snag with the mechanism jammed, the user can launch and retrieve Abissa backwards, increasing the chances of recovery.

Sustainability and respect for the environment

Choosing Abissa means reducing the likelihood of abandoning anchors, lines, and chains on the seabed. Avoiding permanent entanglement helps limit the release of non-biodegradable and toxic materials, contributing to the protection of marine fauna and flora.

How to Use Abissa

Upon purchase, Abissa is supplied in the stowed position: the flukes are closed and secured by the sliding ring to reduce bulk and facilitate transport. Before first use, the anchor must be rigged following the instructions provided.

Arming the mechanism

- **Attach the anchor line.**
Using an appropriately sized shackle, attach a length of chain to the cicada at the top end of the spindle. Then attach the corresponding line to the chain.
- **Use suitable materials.**
Zefmar recommends using only high-quality, correctly sized chains, lines, and shackles. Anchoring security depends on the entire line, not just the anchor.
- **Open the flukes.**
Lift the sliding locking ring along the spindle. The flukes will open automatically, positioning themselves at approximately 70° to the spindle.
- **Lock the flukes.**
Bring the locking ring back into contact with the base of the flukes and rotate it firmly. This step is essential to prevent accidental movement as Abissa lowers into the water.

Anchoring

- 1- Drop anchor when the vessel is stationary or when it is drifting with the wind or tide.
- 2- Release the line and chain evenly until Abissa reaches the bottom.
- 3- Avoid immediately tensioning the line. As a guideline, lay out a length at least three times the depth of the seabed: for example, on a 5-meter depth, lay out at least 15 meters of line/chain.
- 4- For a more stable anchor or in windy conditions, increase the ratio to approximately 5:1: for example, on 5 metres of seabed, lay approximately 25 metres of rope/chain.
- 5- Check that the anchor has taken hold correctly and that the line is working smoothly.

How to refloat and sail Abissa

To use the patented system correctly, the freeing maneuver must be performed gradually and carefully.

- 1- Bring the vessel vertically above the anchor.
- 2- When moving, gradually recover the rope and chain with an electric or manual windlass, avoiding putting tension on the line before being vertical.
- 3- When the boat is above the anchor, gradually bring the line under tension.
- 4- Apply a firm upward pull: the Abissa mechanism will release the anchor and allow it to overcome the obstacle.
- 5- If the anchor doesn't release, don't persist with sudden or dangerous maneuvers. Reassess the boat's trim, the direction of pull, and the safety of the crew.
- 6- When the anchor reaches the surface of the water, pay attention to its natural oscillations and wait for it to stabilize before bringing it aboard.
- 7- Bring the anchor on board by grabbing it only from the safe points, then carry out the maintenance indicated in the manual.
- 8- Before storing it in the locker, lift the locking ring, bring the tips of the flukes towards the spindle and replace the ring over the flukes in the rest position.

Important note: Abissa is designed to drastically reduce the risk of permanent snagging, but Zefmar does not guarantee a 100% unsnagging rate, given the many variables of the seabed.

The release technology acts on the anchor body. Therefore, Zefmar does not guarantee recovery if external elements such as rope, chain, or shackle become permanently snagged.

WARNING: During unsnagging and recovery on board, the internal mechanism may temporarily jam due to the release system being activated on the seabed. In this case, hold Abissa only by the upper tang and place it perpendicular to the bottom of the boat, maintaining a safe distance from your legs and other body parts. The slight impact allows the flukes to move sufficiently to reposition the mechanism and re-arm the anchor for the next use.

Info and maintenance

To ensure the correct functioning of Abissa and its patented mechanism, it is essential to choose the anchor model and anchor line that are proportionate to the vessel.

Boat length	Weight	Chain diameter and length	Rope diameter
< 2 mt	0,7 - 1,5 kg	Rope only	4 - 6 mm
2 - 3,5 mt	1,5 - 2,5 kg	4 mm (> 3 mt)	6 - 8 mm
3,5 - 4,5 mt	3 - 4 kg	4 - 6 mm (> 4 mt)	8 mm
4,5 - 5,5 mt	4 - 6 kg	6 mm (> 6 mt)	8 - 10 mm
5,5 - 7 mt	6 - 8 kg	6 mm (> 7 mt)	10 mm

Abissa maintenance

Minimal but constant maintenance is required to maintain the efficiency of the patented mechanism over time. Zefmar recommends performing the following operations periodically, especially when the mechanism struggles to operate or exhibits abnormal resistance due to marine sediment.

- **Cleaning the seat and removing debris:** Using a small lever, unscrew the eyelet located on the bottom of the anchor. This allows the release of sand or debris accumulated in the seat of the internal pin during mooring. Rinse the interior thoroughly with fresh water and retighten the eyelet.
- **Cleaning the base and internal mechanism:** Open the three Abissa flukes and flush the mechanism with fresh water. This helps remove impurities collected on the seabed that could impede proper operation.

After maintenance, dry the anchor, return it to its resting position, and store it in the designated locker or compartment on board.

Zefmar's History

Zefmar has roots that are deeply rooted in a long history, one of passion, the sea, and family ties.

It all began with the experience of Lorenzo Dagnino, a 75-year-old Genoese man with a profound knowledge of the sea. Aware of one of the most frustrating and widespread problems for boaters, anchor snagging, he set out to find a solution, effectively becoming the inventor of Abissa.

He decided to share the project with his grandson. Fascinated by his grandfather's idea, Dagnino immediately joined the project: together, they built the first prototype and tested its effectiveness in the field. What began as a chance idea thus became a concrete reality.

When his grandfather was no longer able to continue development, his grandson decided to take over the project, determined to continue it and honor him. The main goal was to obtain the patent, an ambitious goal and difficult to achieve alone. For this reason, in March 2025, he decided to participate in a national startup competition.

The project won over the jury and won first prize. This victory also led to the creation of the first official Zefmar team: a group of professionals who still believe in Abissa and work every day to innovate it.

The Abissa Revolution

Abissa was created to revolutionize the anchoring experience for pleasure boats. Thanks to Lorenzo's original vision, every boater can reduce the stress of a stranded anchor and contribute to the protection of the marine environment by avoiding abandoning equipment on the seabed.

Contacts

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Disclaimer

Abissa must be used exclusively according to the instructions in this manual and with components suitable for the characteristics of the vessel, the seabed, and the weather and sea conditions.

The release mechanism reduces the risk of permanent entanglement, but cannot eliminate all risks related to seabed conditions, the handling of the vessel, the condition of the anchor line, or external elements such as rope, chain, and shackle.

Zefmar S.r.l. declines all responsibility for direct or indirect damage to objects, persons, or animals resulting from improper, careless, negligent, or non-compliant use of the product, as well as from unauthorized modifications, unsuitable components, or lack of maintenance.

Glossary

Grapnel anchor	Anchor with more folding flukes, often compact and suitable for small storage spaces.
Anchor ring	Eyelet or attachment point on the anchor to which the shackle, chain, rope or cable attaches.
Rope	Corda nautica utilizzata per collegare l'ancora all'imbarcazione o per altre manovre di bordo.
Chain	Nautical rope used to connect the anchor to the vessel or for other onboard maneuvers.
Veer out	Let the rope or chain slide through the water to the desired length.
Shank	Elongated main body of the anchor, connected to the upper anchor ring and the base.
Storage locker	A compartment on a boat used to store equipment, ropes, anchors, or gear.
Shackle	Metal connecting element, usually U-shaped, used to connect anchor, chain and rope.
Tripping line / Buoy rope	Recovery line attached to the anchor to facilitate its recovery, often via the lower anchor ring.
Fluke	Part of the anchor that penetrates or rests on the seabed, creating a hold.
Heave up the anchor	Recover the anchor by bringing it back on board.
Break out the anchor	Free the anchor from the bottom or an obstacle.