

# SAILING SYSTEMS

Winches and Feeders

**RONDAL**

ULTIMATE RELIABILITY

The background of the slide is a solid orange color with a pattern of white, wavy, concentric lines that resemble topographic contour lines on a map. These lines are irregular and flow across the page, creating a sense of depth and movement.

# **PLAN FOR THE UNEXPECTED**





## PRODUCTS THAT ENSURE ULTIMATE RELIABILITY IN ANY SITUATION

Rondal designs and manufactures high-performance sailing systems and equipment for superyachts. Rondal is recognized as the best for its unrivalled Dutch build quality and innovative technical solutions, achieved through a dedicated focus on continuous improvement in both products and services.

As a building partner, Rondal leverages decades of experience and unburdens the client by taking on turn-key projects. The products of Rondal ensure ultimate reliability in any situation.

The Rondal team consists of approximately 75 professionals. The workforce includes highly qualified engineers, composite workers, CNC machine operators, welders and mechanics as well as a host of complementary specialists.

With decades of experience in composite and aluminum engineering and manufacturing, Rondal serves the market with specialized products for both sailing yachts and motor yachts.

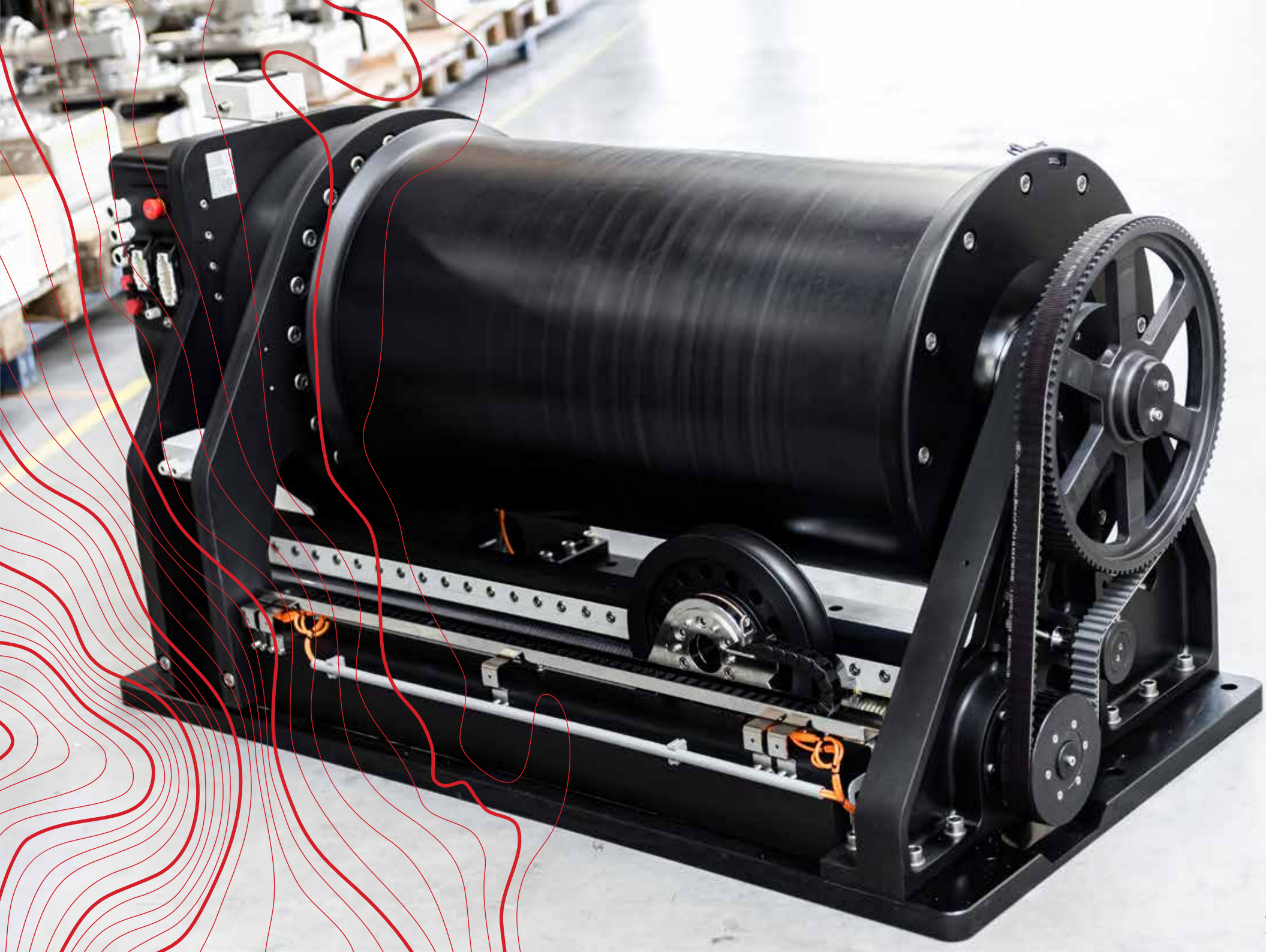




## LOADED WITH QUALITY

Modern winches must possess exceptional power to withstand the immense loads exerted by supersized rigs and sails crafted using advanced sail-making technologies.

Safety remains paramount, along with ease of maintenance. Rondal collaborates with cutting-edge materials and the latest technologies to meet these combined demands, resulting in smaller, lighter, and faster winches.











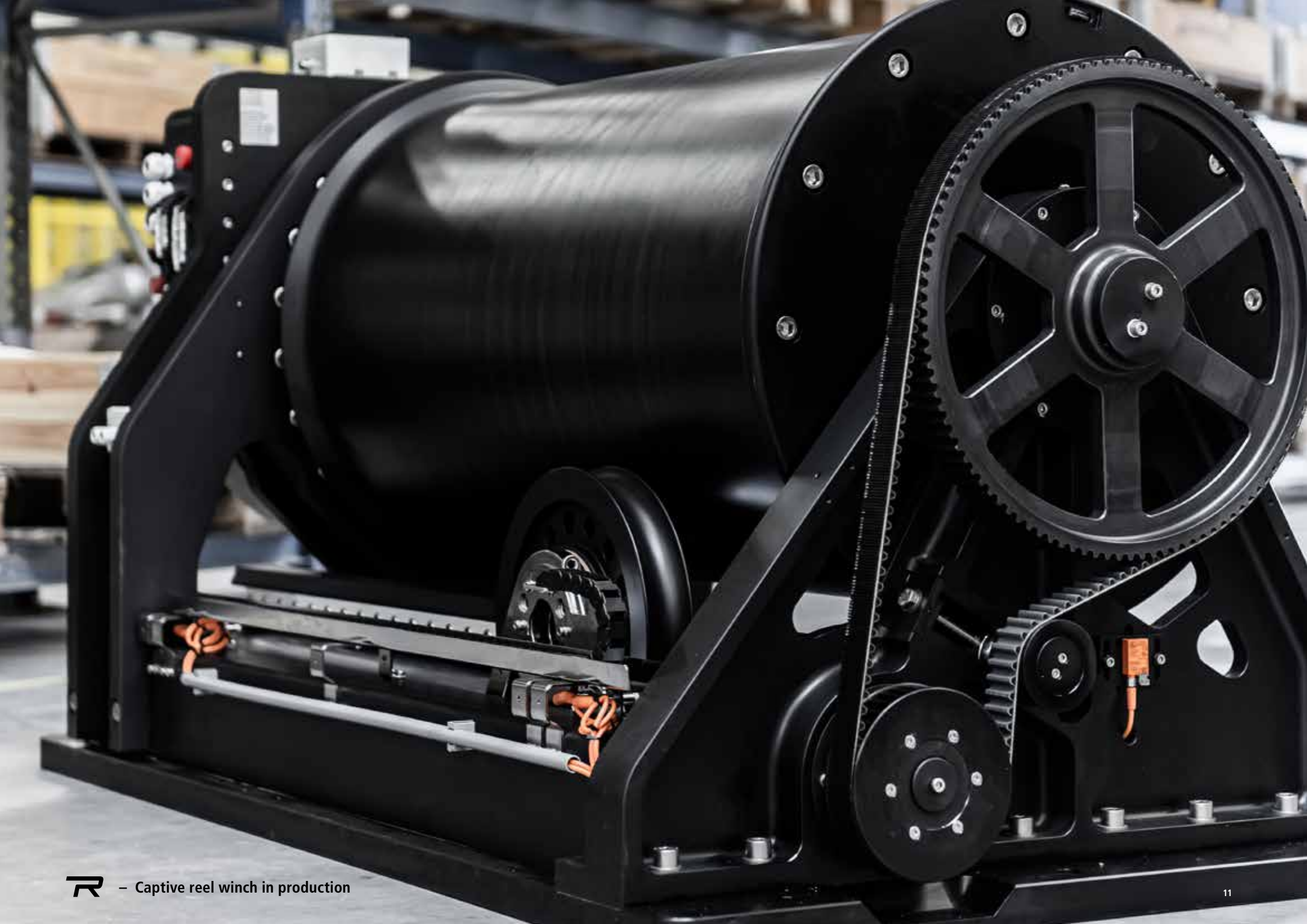
## CAPTIVE REEL WINCH PRINCIPLE

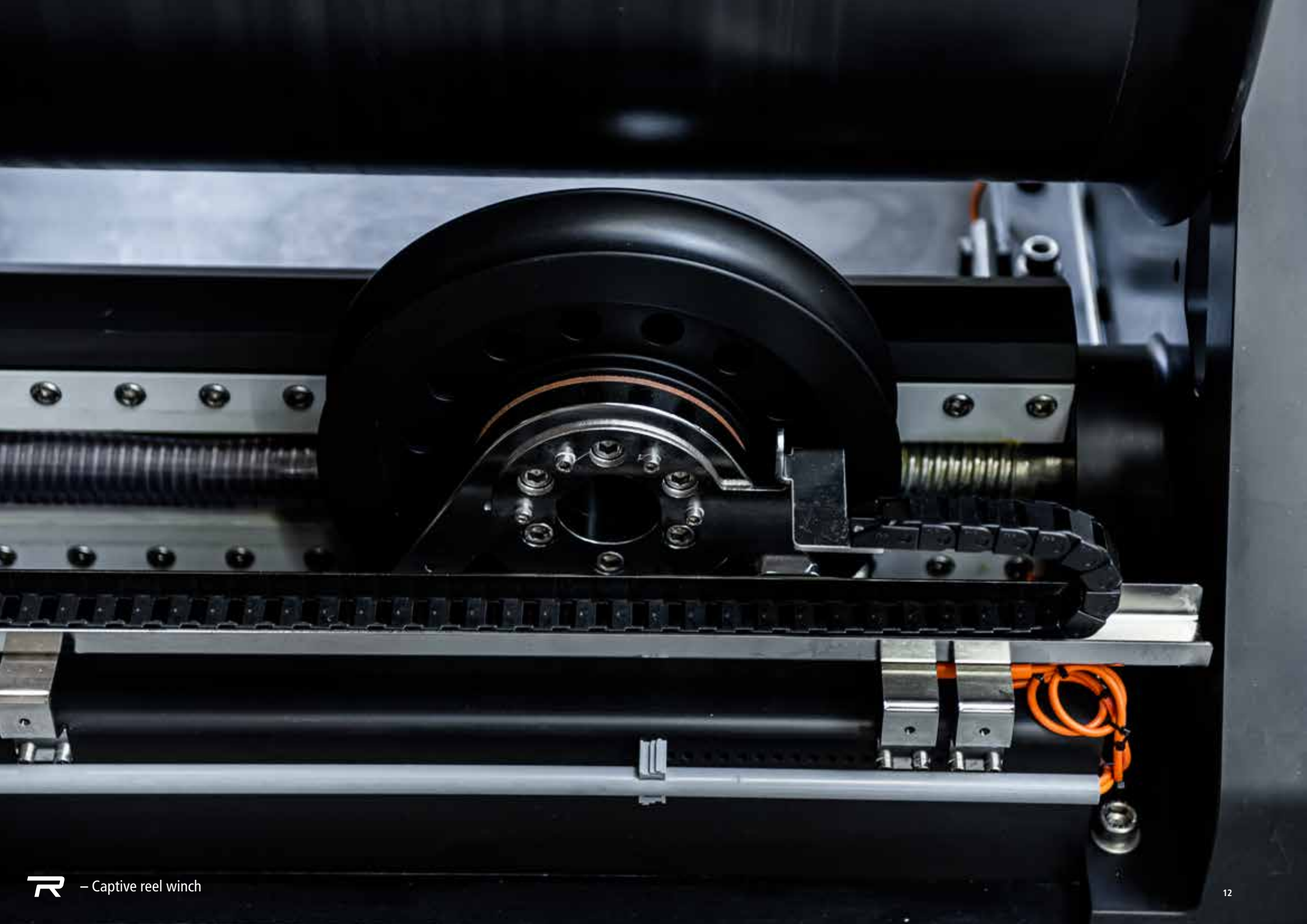
The reel winch, available in carbon and aluminium, stores the line in a single layer to prevent a second layer from jamming in the first layer. The calculation for the drum length is based on the line diameter and the length of line to be stored, i.e. the retrieving length.

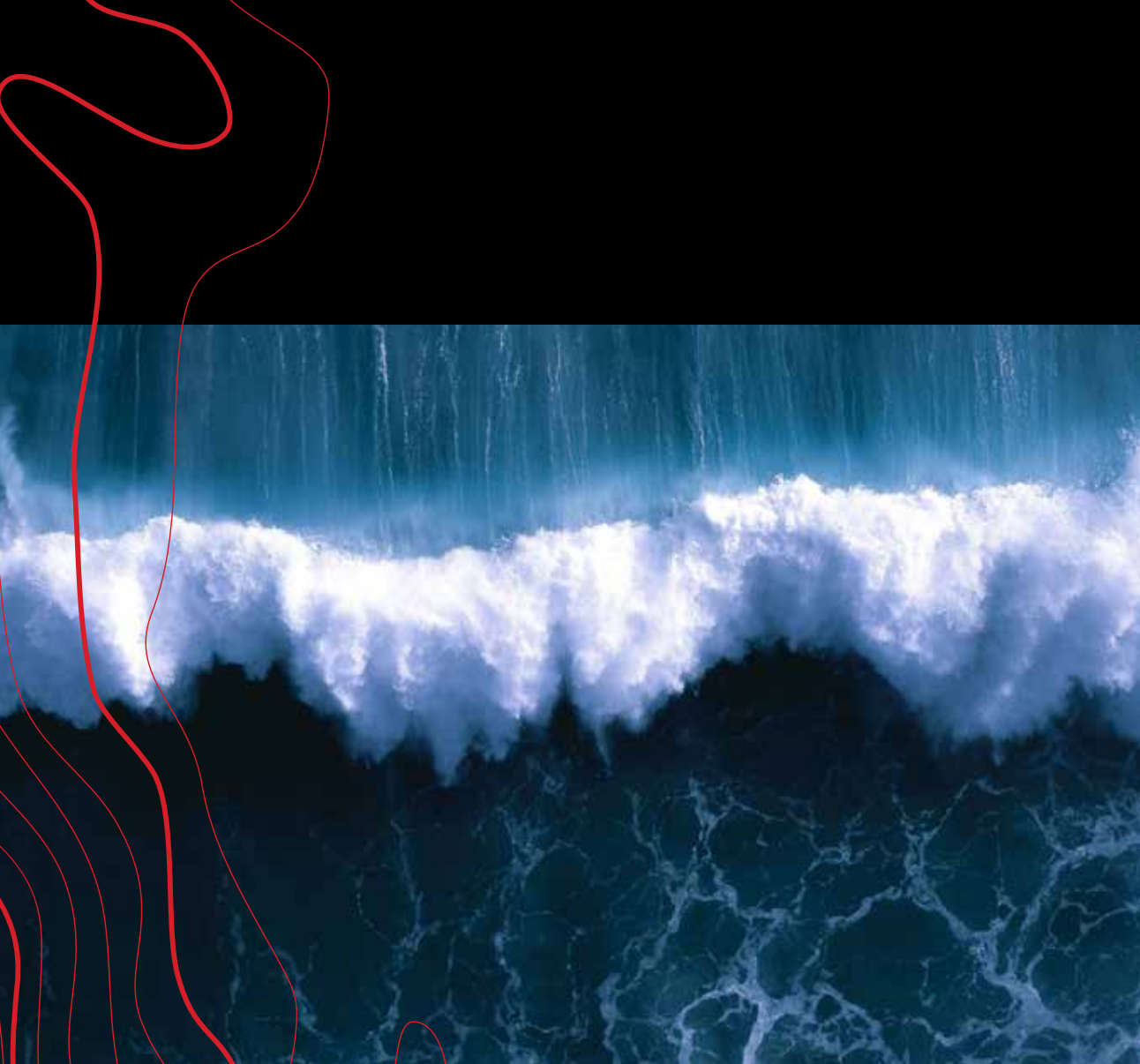
Next to the drum is a spindle-driven slider to ensure that the line turns are stored properly. Spindle is driven by pulleys which are interchangeable enabling adjustments to the line diameter if necessary. End switches safeguard the use of the winch. The winch will stop as soon as all but the (e.g. 3) safety windings of line have been paid out and it will also stop as soon as the drum is full.

Underneath the drum, there are sensors that detect slack in the line, resulting in the drum stopping when slack is detected.

To prevent slack in the line, all Rondal winches are equipped with an optical sensor. This sensor transmits a light beam underneath, close to the drum. If the line slackens, the turns around the drum will drop and interrupt the beam, generating an electrical signal that will stop the winch. At the same time, a signal indicating failure of the winch operation is dispatched to the steering position. The reel winch is available with the spindle on either the left- or right-hand side of the drum. The gearbox and brake are located inside the drum, and connected to the motor right next to the drum.





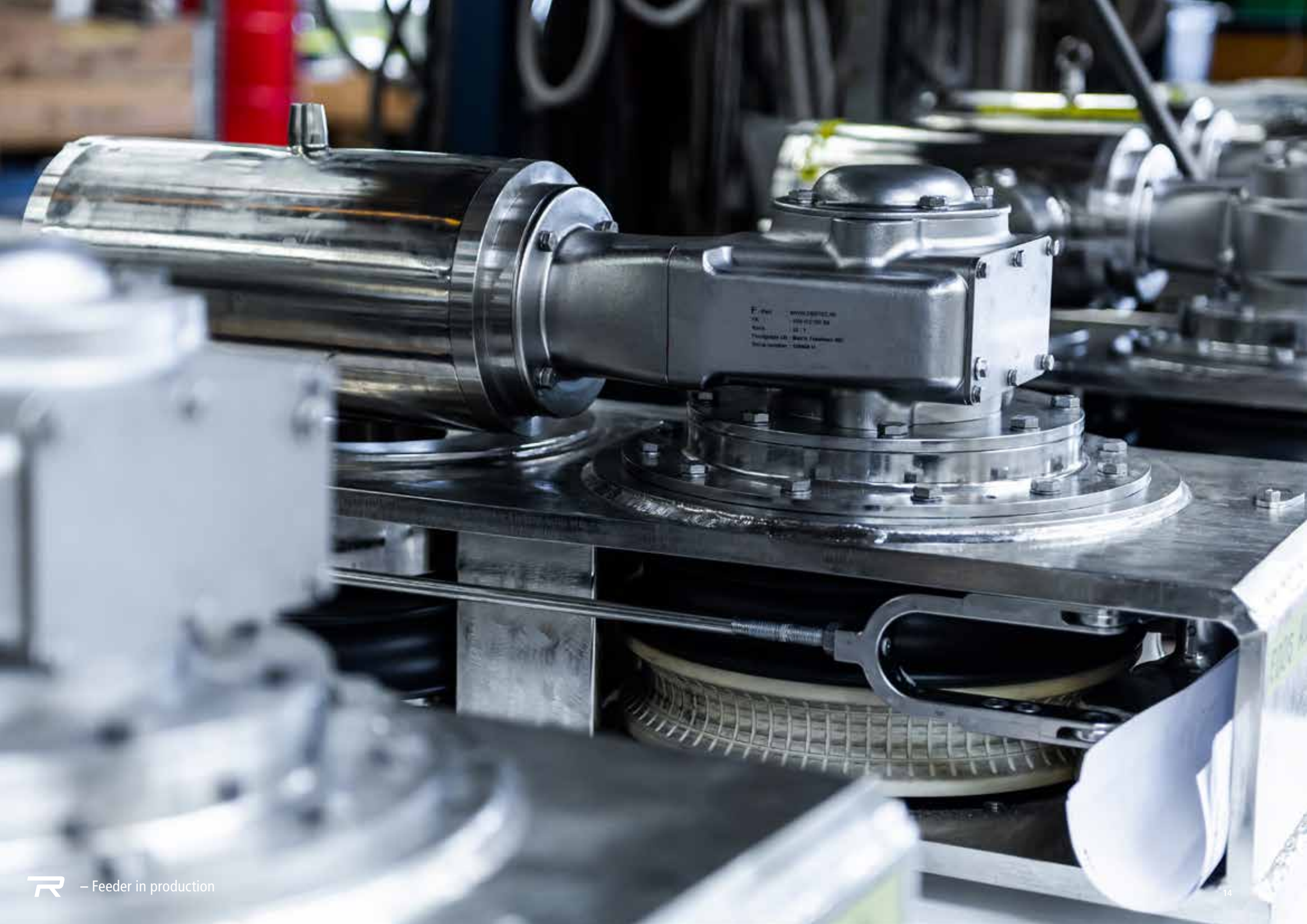


## **ELECTRIC CAPTIVE REEL WINCHES (RW)**

Rondal's electric winches offer a significant benefit over hydraulic winches: peak shaving technology. A conventional hydraulic system needs to be set up to meet the maximum peak power requirements at all times, resulting in a costly and oversized system for conditions that the yacht will rarely, if ever, see.

By contrast, electric winch set-ups can be laid out for average power requirements, because peak demands can always be met by a battery bank and/or additional generator set. Additionally, Rondal's electric captive RW winches can regenerate power by feeding it back into the system when releasing tension on the sheets. This adds to the battery reserve and, in the generator failure, can assist essential sailing systems. The winches have load sensors enabling live load read-out relevant to sails and sheets, and alarms for safety purposes can be added, as well.

The winches are capable of achieving approx. 80 m/min. for fast tacking and gybing.



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## **A FEEDER IS DESIGNED TO GUIDE AND TENSION THE LINE**

Winches are often situated below deck, and the lines are guided to the deck's exit using blocks and sheaves. The lines below deck should always be kept under tension to prevent tangling and jamming. This tension ensures the lines are properly retained within the blocks and sheaves.

The feeder, located at the deck's exit, directs the line onto the deck, leading to various components or back into the

deck towards the winch. It is designed to guide the line from the winch to the deck and maintain tension between the feeder and the winch. However, the feeder should not be used to increase the pulling force on the line, as this function is solely for the winch.

Feeder wheels can be powered either electrically or hydraulically. The motor can be directly connected, geared, or linked with a drive belt to the main

shaft. This main shaft operates the feeder wheel, allowing the motor to rotate the feeder wheel in both directions (pull and ease). The feeder wheel is coated to optimize friction between the line and the feeder wheel. Pressure rollers are used to press the line against the wheel. The pressure applied by the rollers can be adjusted by increasing or decreasing tension on the rubber spring damper. The feeder is mounted on the ship's structure using a frame, and the feeder cover is installed

on the deck to provide a finishing touch and protect the feeder.”

## THE FUTURE OF OUR WINCHES

Get a sneak peek into our winches of the future: lightweight, reliable, and compatible with both electric and hydraulic systems. Our winches are future-ready. Curious? Contact us today!







## PIECE OF MIND

Rondal's products offer more than exceptional functionality - they provide the assurance that the yacht is equipped with the best of the best. Rondal is dedicated to finding optimum solutions for every conceivable winch-related requirement. The result? Products that are remarkable in their simplicity, yet ahead of the game in terms of durability and reliability.

We can offer peace of mind, because we have poured all our sailing experience into creating virtually maintenance-free and incredibly silent winches, that professionals love to work with.





**ADVENTURE  
IS WAITING  
FOR YOU THERE**

**WITH PRODUCTS THAT ENSURE ULTIMATE RELIABILITY  
IN ANY SITUATION**

**Rondal**

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