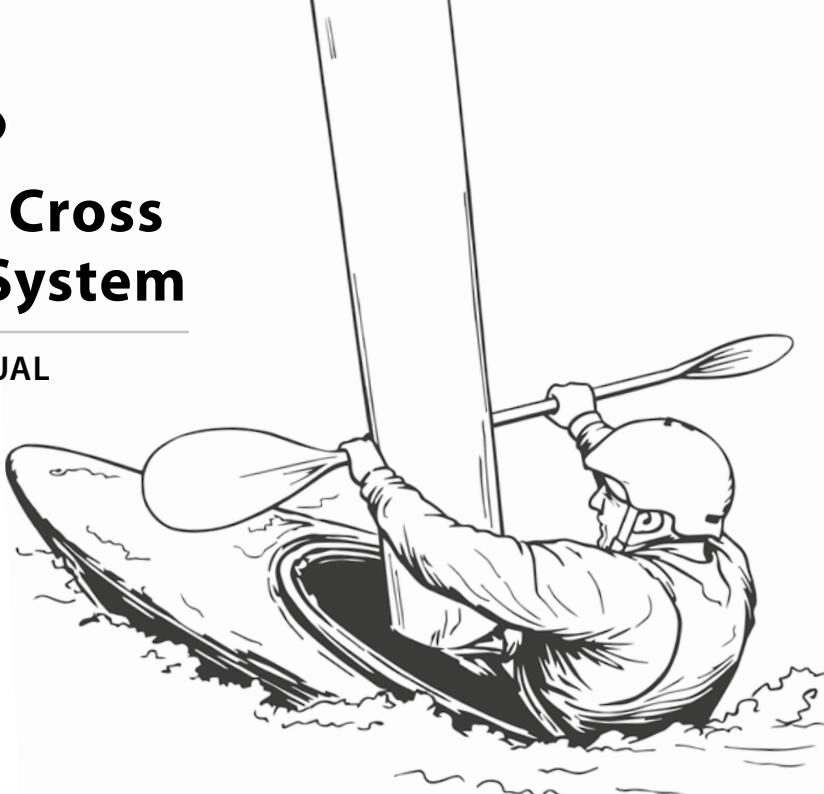




# Kayak Cross Buoy System

USER MANUAL



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# 1. Introduction

**The ROBfin Kayak Cross Buoy System** is a suspended inflatable buoy system designed for Kayak Cross courses. It was developed based on the requirements of the Czech Canoe Federation national team and the International Canoe Federation (ICF).

The goal of the development was to eliminate long-standing issues associated with conventional systems, in particular: ***damage to suspension components, risk of injury to athletes, complicated installation, instability of buoys after impact***

*The system is designed to ensure maximum stability, safety, and durability, and is suitable for both competition and training use on slalom courses.*

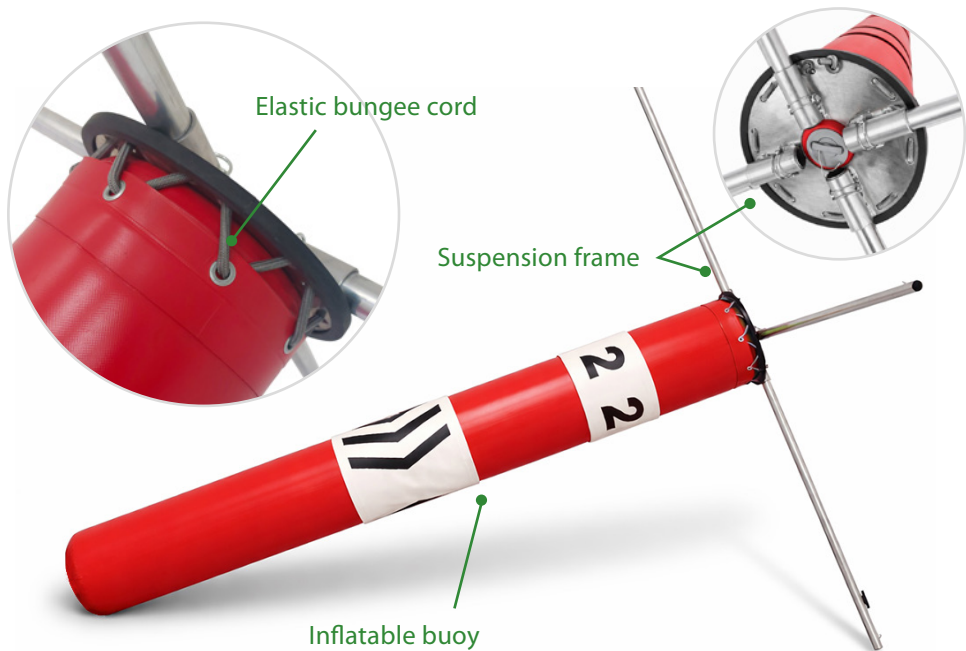
## 2. System Description

**The system consists** of an inflatable buoy and an aluminium suspension frame.

The upper frame consists of a circular section attached to the buoy and four aluminium arms that keep the buoy in the correct position while allowing it to naturally return to its original position after displacement. Attachment to systems used on slalom courses is ensured by locking carabiners.

The buoy is connected to the frame **using an elastic bungee cord**, which runs between metal eyelets and the upper frame.

**This system allows the buoy to move naturally upon contact with the athlete and ensures its quick return to the original position.**



### 3. Buoy Installation

The buoy is supplied deflated, and the suspension frame is delivered disassembled into individual parts. The system must be assembled prior to installation on the course.

#### Package Contents

- Inflatable buoy
- Central frame connector
- 4x aluminium frame tubes
- Securing pins



**Smooth welds** minimize the risk of hand and arm injuries.

## Build fights

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- 1 Insert the aluminium rods into the prepared holes in the central frame connector.



- 2 Insert the rods so that the holes are aligned, allowing the locking pin to be inserted. The suspension system must always face upwards.



- 3 Secure the rods with locking pins to prevent them from slipping out.



**4** Open the buoy valve (see Chapter 5).



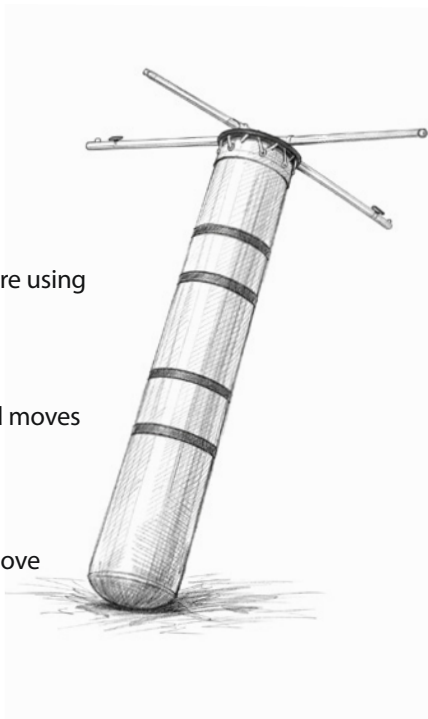
**5** Add 3 liters of water and close the valve.



**6** Then inflate the buoy.

## 4. System Installation

- 1 Frame Assembly**  
Assemble the aluminium suspension frame.
- 2 Installation on the course**  
Attach the frame to the slalom course structure using carabiners.
- 3 Balance Check**  
Check that the buoy is properly balanced and moves freely.
- 4 Movement Check**  
After installation, the buoy must be able to move freely and return to its original position.



## 5. Inflation Valve – open and close

The buoy is equipped with an HK-type plastic valve, which allows for quick inflation and deflation.

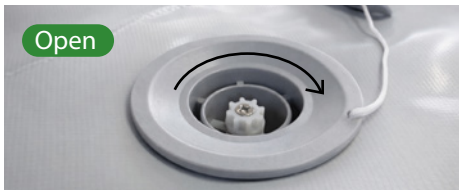
### Valve Opening

- Press the central pin of the valve and turn it to the right (clockwise).
- The valve will remain in the open position for inflation or deflation.

### Valve Closing

- Press the central pin of the valve and turn it to the left (counterclockwise).
- The valve will return to the closed position.

**After closing, always screw on the protective valve cap to prevent accidental opening.**



Use the supplied ROBfin adapters with pumps and compressors. If you do not have the required adapter, valve wrench, or a spare valve, request replacements from the manufacturer. For cleaning or servicing the valve, use only the supplied wrench.

## 6. Buoy Inflation

The buoy is inflated with air to a nominal operating pressure of **0.25 bar**.

A two-stage inflation is recommended – first using a battery-powered compressor, followed by a hand pump.

## Recommended Inflation Procedure

### 1 Closing the valve

Close the buoy valve according to the procedure described in Chapter 5: Buoy Valve.

### 2 Buoy Inflation

Attach a suitable adapter to the battery-powered compressor, place it against the buoy valve, and inflate the buoy with air so that it takes its basic shape.



### 3 Final Inflation

Connect a hand pump using the bayonet connector and inflate to the recommended operating pressure.



**The buoy is designed to safely withstand short-term increases in pressure (e.g. due to heating in the sun).**

## Connecting the Pump Using a Bayonet Connector

1. Insert the pump nozzle into the valve.
2. After insertion, turn the nozzle approximately 45° to lock the bayonet connection.
3. Once inflation is complete, turn the nozzle back and remove it.

## How to Determine the Correct Pressure Without a Pressure Gauge

If a pressure gauge is not available, the correct inflation can be estimated as follows:

- The buoy is firm to the touch
- When pressed by hand, it slightly yields but is not soft
- The surface is taut and maintains its shape



### **Warning when using an electric compressor:**

- The valve must always be in the open position.
- Prevent water from entering the compressor – risk of damage.

## 7. Technical Parameters

Parameters	Kayak Cross buoy – green	Kayak Cross buoy – red
Length	2050 mm	2050 mm
Diameter	240 mm	240 mm
Weight of the buoy	<b>2,00 kg</b>	<b>2,40 kg</b>
Weight including frame	<b>5,95 kg</b>	<b>6,35 kg</b>
Working pressure	25 000 Pa	25 000 Pa

The **ROBfin Kayak Cross Buoy System** is designed in accordance with the rules of the International Canoe Federation (ICF). The system is approved for use in all types of Kayak Cross competitions under ICF regulations.

Parameters	Roll Zone buoy
Length	6010 mm
Diameter	240 mm
Weight	<b>4,50 kg</b>
Working pressure	25 000 Pa

## 8. Suspension Frame Parameters

Number of rods	4
Rod length	1000 mm
Rod diameter	30 mm
Frame weight	3,95 kg
Hook spacing for cable attachment	1450 mm

## 9. Maintenance and Inspection

Before each use, we recommend performing the following checks:

- Correct pressure in the buoy
- Condition of the bungee cord
- Frame attachment
- Damage to the buoy material



**Do not use the buoy if it is damaged until it has been repaired.**



**In the event of significant damage, we recommend sending the buoy to the manufacturer, ROBfin, for repair. Service repairs can be arranged via the contact details provided in the section Contact and Support.**

## 10. Repair

Minor damage can be repaired using the supplied repair kit.

### Repair Procedure

1. The damaged area must be clean and dry.
2. Place the buoy on a flat, solid surface and prepare the patch.
3. Degrease both the surface and the patch (e.g. with acetone).
4. Apply a thin layer of adhesive to both the patch and the damaged area (approx. 1 cm beyond the edges of the patch).
5. Allow to ventilate for 10–15 minutes (at approx. 20 °C); the bonded surfaces must not become wet.
6. Then press the patch firmly over the entire area and use a roller or squeegee to remove air from the joint (a flat surface is recommended).

The buoy can be used almost immediately; however, the bond reaches optimal strength after approximately 8 hours.

## 11. Contact and Service

If you have questions regarding repairs, usage, or system components, please contact our specialists: **robfin@robfin.cz**.

Repairs can also be ordered through the website **www.robfin.cz**, including transport arranged directly from your address.

**ROBfin**



robfin@robfin.cz



www.robfin.cz



**Manufacturer:**

**Denali, spol. s r.o.**

Gen. Štefánika 28, Přerov

750 02, Czech Republic

IČ: 479 77 680

## 12. Warranty

The manufacturer provides a 24-month warranty from the date of sale.

**The warranty covers** free repair or replacement of parts that are defective due to material or manufacturing faults.

**It does not cover** normal wear and tear, abrasion, or damage caused by improper use or contact with sharp objects.

## 13. Disposal

Dispose of the product in accordance with local waste management regulations.

The buoys are manufactured in accordance with the official rules of the **International Canoe Federation (ICF)** and are **approved for use in Kayak Cross competitions.**