Rotorama Dito – Parts

Parts of a modular FPV quadcopter frame
User Manual



Read this entire manual before assembling the frame and keep it for future reference.

Rotorama, s.r.o. · www.rotorama.com

Contents

1. Product description

1.1 Purpose

1.2 Technical data and package contents

2. Use

2.1 Building a frame to suit your needs

2.2 Combining with Samurai V3 parts

2.3 Example: the Dito Pro 5" configuration

2.4 Assembly guidelines

3. Safety, inspection and maintenance

3.1 Safety when handling the parts

3.2 Inspection after a crash and maintenance

3.3 Operating the assembled drone

4. Information for the EU and Czech Market

4.1 Importer and responsible person in the EU

4.2 Disposal

5. Warranty and rights arising from defective performance

5.1 Rights of the buyer under Czech law

1. Product description

1.1 Purpose

Rotorama Dito is based on the Samurai V3 frame and is its loose successor. It is not just a single frame but a **set of mutually compatible parts** – arms, bottom plates, side plates, a top plate and 3D-printed mounts – that can be combined with one another. Everyone can therefore build an FPV quadcopter frame to suit their own needs: from a 5" racing quad to a small 3" quad suitable for the garden or the park.

This product covers the **individual parts** of the Dito set. You select the specific part as the type (variant) when ordering. Dito parts can also be combined with existing Samurai V3 frame parts (see Chapter 2.2). The product serves both as a spare part and as a kit for building a new frame.



Example of a build from Dito parts – a small quad with separate 3" arms

1.2 Technical data and package contents

Each variant contains only the part stated in its name. “2x” in the name means that the package contains two pieces.

Type (variant)	Contents	Use
Arm 3"	1 pc	separate arm for a small 3" quad; used together with the middle plate
Arm 5" Light	1 pc	arm for a 5" quad
Arm 5" Pro	1 pc	arm for a 5" quad; complemented by the SFG part
SFG	1 pc	“side force generator” for the 5" Pro arm
Bottom plate 30x30/20x20	1 pc	for a standard or smaller stack with M3 holes
Bottom plate 20x20	1 pc	for smaller stacks with M3 holes
Bottom plate 25x25	1 pc	for Toothpick-type AIO boards
2x middle plate	2 pcs	for separate 3" arms
2x side plates – Nano camera	2 pcs	side plates for a Nano-size camera
2x side plates – Micro camera	2 pcs	side plates for a Micro-size camera
Fin – Lollipop micro	1 pc	3D-printed part (fin) for a Lollipop micro type antenna
Top plate	1 pc	for a frame with a top plate instead of side plates
Camera mount – Micro (top plate)	1 pc	3D-printed Micro camera mount for the top plate
Camera mount – Nano (top plate)	1 pc	3D-printed Nano camera mount for the top plate
Hardware – side plates	1 set	screws, nuts and standoffs for a frame with side plates
Hardware – top plate	1 set	screws, nuts and standoffs for a frame with a top plate



Examples of Dito parts – arms, SFG, bottom plates, side plates, 3D-printed parts and hardware

▶ Not included in the package

Parts of other types, motors, flight controller (FC), electronic speed controllers (ESC), camera, video transmitter (VTX), receiver, antenna, propellers, battery, battery strap and tools. Screws, nuts and standoffs are included only in the *Hardware* variants.

▶ Product identification

Rotorama Dito – Parts, type according to the selected variant (see the table above). Manufacturer: Rotorama.

2. Use

2.1 Building a frame to suit your needs

A Dito frame consists of four groups of parts. From each group, choose the parts that match your electronics and the desired quad size and add them to your order:

① **Bottom plate** – according to the size of your electronics: *30x30/20x20* for a standard or smaller stack with M3 holes, *20x20* for smaller stacks with M3 holes, *25x25* for Toothpick-type AIO boards. The Samurai V3 bottom plate can also be used.

② **Arms** – the *3*" *arm* together with the *2x middle plate* (separate arms for a small quad), the *5*" *Light arm*, or the *5*" *Pro arm* complemented by the *SFG* part. Samurai V3 arms (4", 5" Light, 5" Standard, 5" Pro) can also be used.

③ **Side plates or top plate** – *2x side plates* for a Nano or Micro camera, or alternatively the *top plate* with a 3D-printed Nano or Micro camera mount. Samurai V3 side plates can also be used.

④ **Hardware** – the set *for a frame with side plates* or the set *for a frame with a top plate*, according to your choice in step ③.

※ Choose the number of arms, SFGs and side plates according to the frame design – one variant contains only the number of pieces stated in the table in Chapter 1.2.

▶ Design features of Dito parts

- The bottom plates have a **third hole** in the middle. This makes it possible to build a quad with separate 3" arms.
- With boomerang arms, the front arms are fixed with **three screws**; the middle screw holds the arms in place even when the side plates are removed. This makes servicing the quad easier.
- The rear part of the side plates is slightly raised, so even three boards fit into the stack (e.g. with an HDZero video transmitter).
- The arm ends are shaped so that motors whose shaft protrudes below the mounting base can also be used.
- With the Nano side plates, the camera is held in a 3D-printed mount. This reduces the risk of damaging the camera in a hard crash, and the mount can easily be replaced with another one with a fixed camera angle.
- The **SFG** parts (side force generators) on the 5" Pro arms help stabilise the quad in fast forward flight and, thanks to their rigid attachment to the arms, increase the stiffness and durability of the frame.

2.2 Combining with Samurai V3 parts

Dito parts can be combined with existing Samurai V3 frame parts – the bottom plate, the 4", 5" Light, 5" Standard and 5" Pro arms and the side plates. **Exception:** the separate 3" arms cannot be combined with the Samurai V3 bottom plate.

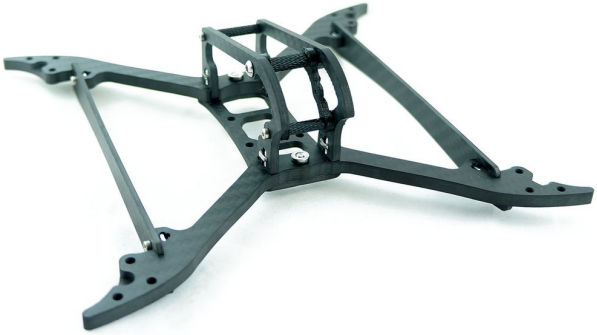
2.3 Example: the Dito Pro 5" configuration

Rotorama offers a ready-made **Dito Pro 5"** configuration made from Dito parts, intended primarily for race tracks. It consists of the following parts:

Part (type)	Quantity
Arm 5" Pro	2×
SFG	2×
Bottom plate 20x20	1×
2x side plates – Nano camera	1×
Hardware – side plates	1×

Rotorama states the following data for this configuration. They apply **only to the Dito Pro 5" build** – with a different combination of parts they may differ.

Frame weight	66 g
Stack space	50 × 25 mm
Stack mounting hole pattern	20 × 20 mm, M3
Motor mounting hole pattern	Ø 16 mm, M3
Configuration	True X
Camera size	Nano



Dito Pro 5" build – 5" Pro arms with SFGs and side plates for a Nano camera

2.4 Assembly guidelines

The manufacturer does not publish a detailed assembly procedure or tightening torques. Follow the general principles of building FPV quads:

- Before assembly, lay out the parts and check that you have all the required types and the correct hardware for the chosen frame variant (side plates / top plate).
- Tighten screws with care. Carbon parts can be damaged and 3D-printed parts deformed if a screw is overtightened.
- For screws threaded into metal (standoffs, nuts), you can use a medium-strength threadlocker. Do not use it on 3D-printed parts.
- Choose motor screws so that, once tightened, they **do not reach the motor windings**. Check the length before connecting the battery for the first time.
- Carbon composite is **electrically conductive**. Insulate the electronics from the carbon parts (silicone grommets, heat-shrink tubing) and make sure that wires do not rub against the edges of the parts.
- Mount the electronics in the stack using anti-vibration rubber grommets, if the board comes with them.
- After assembly, check that all propellers spin freely and do not touch the frame, wires or antenna.

3. Safety, inspection and maintenance

3.1 Safety when handling the parts

- The edges of carbon parts may be sharp. Handle them with care.
- **Do not sand or drill carbon parts without protection**. Carbon fibre dust irritates the skin, eyes and respiratory tract and is electrically conductive. Wear a respirator and safety glasses and sand only when wet.
- Keep small parts and hardware out of the reach of children – risk of inhalation or swallowing.
- This product is not a toy. It is intended for building FPV quads by experienced users.

3.2 Inspection after a crash and maintenance

- After every crash, inspect the arms, plates and side plates. Replace a cracked, delaminated or bent part immediately – never fly with it.
- Check that screws have not come loose, especially the arm and motor screws.
- Check the 3D-printed parts (camera mounts, fin). Replace a cracked mount so that the camera does not change its angle in flight.
- Thanks to the modular design, only the damaged part needs to be replaced – order the corresponding type from this product listing.
- Clean the parts with a dry or slightly damp cloth, without solvents.

3.3 Operating the assembled drone

The frame is only one component of a drone. Whoever builds and operates a drone from it is responsible for its safe and legal operation. Regulations (EU) 2019/947 and 2019/945 apply in all EU Member States, but national implementing rules differ from country to country – registration portals, minimum pilot age, geographical zones, compulsory insurance, permitted frequency bands and maximum transmit power. **The law of the country in which you operate the drone always prevails.** In the Czech Republic, the competent authority is the Civil Aviation Authority (www.caa.gov.cz).

4. Information for the EU and Czech Market

4.1 Importer and responsible person in the EU

The product is placed on the European Union market by the importer stated below, who is at the same time the responsible person within the meaning of Article 16 of Regulation (EU) 2023/988 of the European Parliament and of the Council on general product safety (GPSR).

Importer / responsible person in the EU	Rotorama, s.r.o.
Company ID (IČO)	051 57 692
VAT ID (DIČ)	CZ05157692
Registered office	Okrajová 1351, 674 01 Třebíč, Czech Republic
E-mail	info@rotorama.cz
Phone	+420 252 252 098
Website	www.rotorama.com

4.2 Disposal

- The product contains no electronic components or batteries and is not subject to take-back of electrical equipment.
- Dispose of unusable carbon and 3D-printed parts and hardware in accordance with local waste regulations (e.g. at a municipal collection yard).
- Sort the packaging by material type into the appropriate recycling containers.

5. Warranty and rights arising from defective performance

5.1 Rights of the buyer under Czech law

The rights and obligations of the contracting parties are governed by Czech law, in particular by Act No. 89/2012 Coll., the Civil Code, and Act No. 634/1992 Coll., on consumer protection.

- The seller is liable to the buyer for the product being free of defects on receipt. If the buyer is a consumer, a defect may be notified **within two years of receipt** of the product (Section 2165 of the Civil Code).
- If a defect appears within **one year** of receipt, the product is deemed to have been defective already at the time of receipt (Section 2161(5) of the Civil Code).
- When purchasing online, a consumer has the right to **withdraw from the contract within 14 days** of receiving the goods without giving a reason (Section 1829 of the Civil Code).
- Claims should be made with the retailer from whom you purchased the product. The importer's contact details are given in Chapter 4.1.
- The competent body for out-of-court settlement of consumer disputes is the **Czech Trade Inspection Authority**, Štěpánská 796/44, 110 00 Prague 1, www.coi.cz.