## BETAFPV Pavo Femto

# BETAFPV Pavo Femto Brushless Whoop Quadcopter User Manual

Model: **Pavo Femto** | Brand: **BETAFPV**

## 1. Product Overview

The BETAFPV Pavo Femto is a 2S high-definition brushless quadcopter designed for exceptional 4K/60fps video recording and agile flight performance. Its compact and lightweight design makes it suitable for both freestyle flying and aerial videography (DJI O4 Air Unit not included by default).

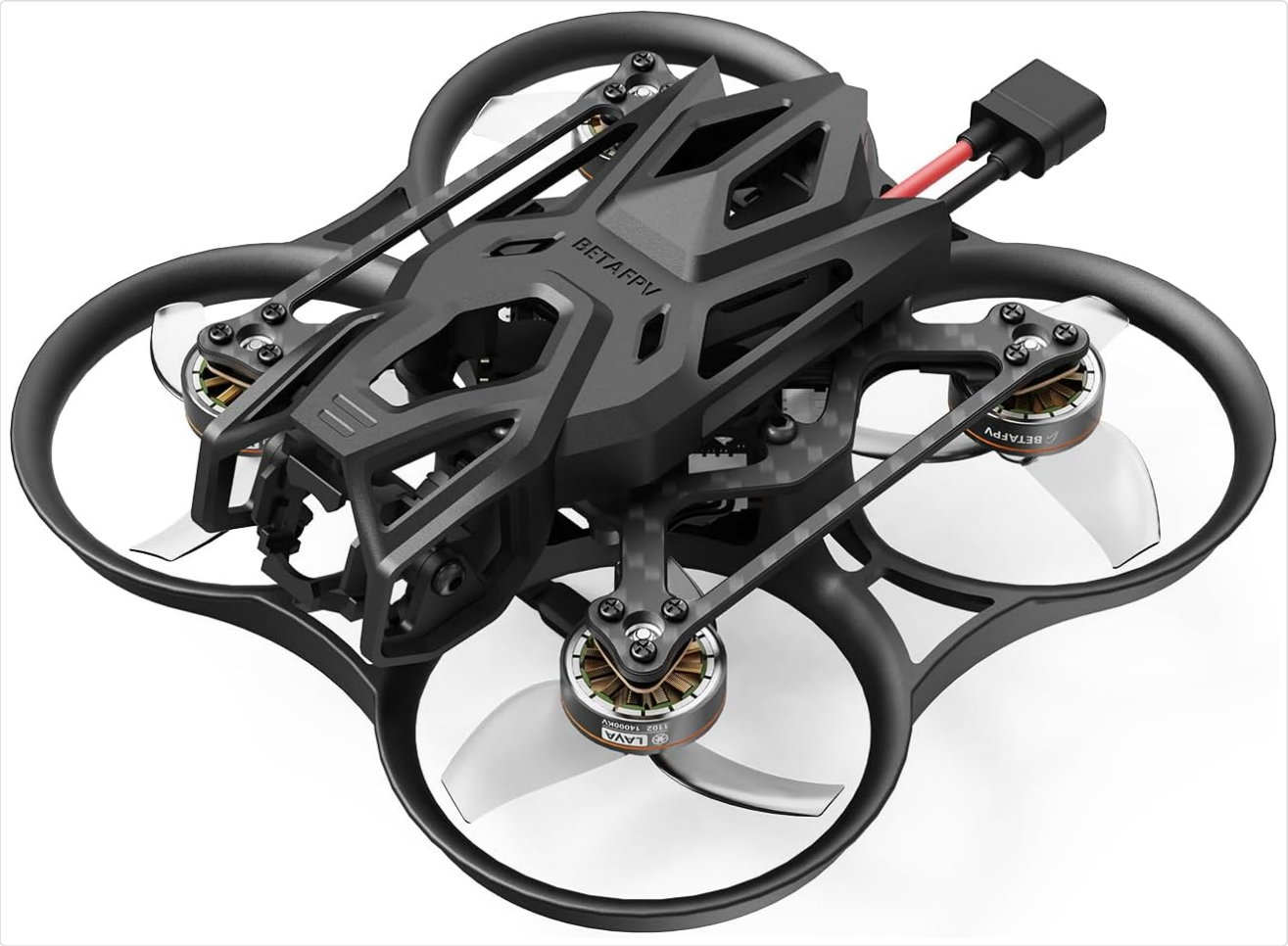


Figure 1: The BETAFPV Pavo Femto Brushless Whoop Quadcopter, showcasing its compact design.

Key features include a high-performance propulsion system with LAVA 1102|14000KV motors and Gemfan 1611 3-blade propellers, providing an impressive thrust-to-weight ratio. The Pavo Femto frame kit offers enhanced durability and a 4% thrust increase. A specialized shock-absorbing system is integrated to ensure clear video footage by reducing vibrations, especially when using the DJI O4 Air Unit. The advanced F4 20A flight controller with dual BECs allows for precise control and supports external devices.

## 2. Package Contents

Before proceeding with assembly or operation, please verify that all components listed below are present in your package. Spare screws are included.

- 1* Pavo Femto Brushless Quadcopter (PNP Version)
- 1* Canopy for O4 Air Unit Bracket
- 1* Bottom Plate for O4 Air Unit Bracket
- 4* GF 1611 3Blade Propellers
- 1* Type-C to SH1.0 Adapter
- 1* SH1.0-4Pin Adapter Cable
- 6* Shock-absorbing Balls for DJI O4 Bracket (6.6mm)
- 8* Shock-absorbing Balls for DJI O4 Camera
- 6* Shock-absorbing Pads for O4 Air Unit
- 6* M2*10 Cylindrical Socket Head Cap Screws

- 4* M2*4 Flat Head Socket Cap Screws
- 6* M1.4*5 Phillips Flat Washer Head Tapping Screws
- 1* DJI O4 Camera Bracket
- 1* Shock-absorbing Mount for DJI O4 Camera
- 1* 5.8G VTX Antenna
- 1* Tweezers

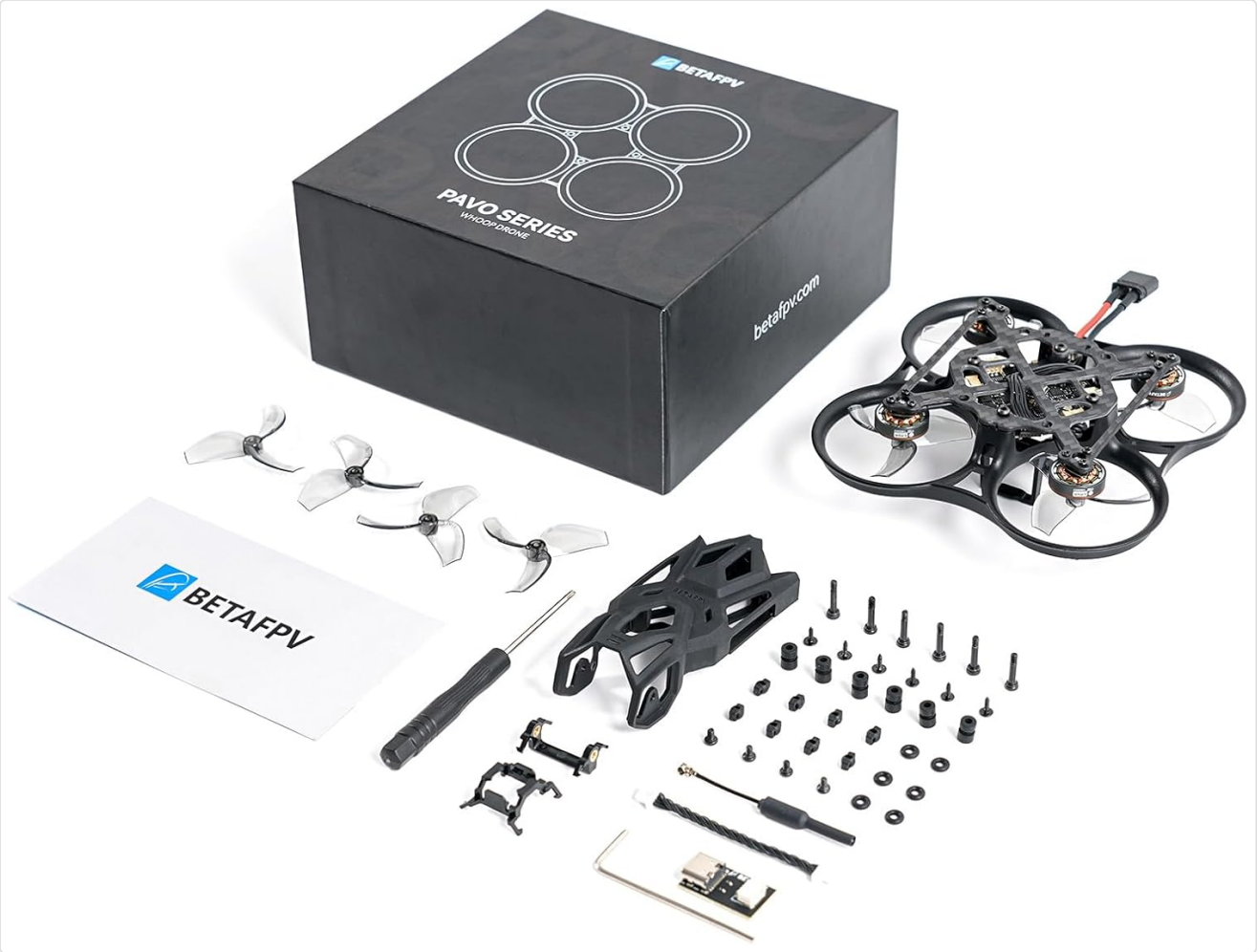


Figure 2: All components included in the Pavo Femto package, laid out for inspection.

## 3. Setup and Installation

This section provides detailed instructions for installing the DJI O4 Air Unit (not included) and other components onto your Pavo Femto Quadcopter. Please follow these steps carefully to ensure proper functionality and prevent damage.

### 3.1 DJI O4 Air Unit Installation

The following video demonstrates the complete installation process for the DJI O4 Air Unit. It is highly recommended to watch this video before beginning the physical installation.

Your browser does not support the video tag.

Video 1: Pavo Femto Quadcopter Installation Guide. This video provides a step-by-step visual guide for installing the DJI O4 Air Unit and associated components.

### Key Installation Steps:

1. **Prepare Components:** Ensure all parts listed in the package contents are available and organized.
2. **Install O4 Camera into Bracket:** Carefully insert the O4 camera into the DJI O4 camera bracket. Ensure the forward direction of the O4 camera (with connector) matches the bracket's orientation. The camera protection should be upward.
3. **Attach Shock-absorbing Balls to Camera Bracket:** Insert the slots of the O4 camera bracket into one hole of four shock-absorbing balls separately. Repeat for all four balls. The correct installation ensures the camera protection is upward and the terminal-equipped side faces the O4 bracket.
4. **Connect VTX Antenna:** Connect the VTX antenna with the antenna mount of the O4 VTX module and gently bend the antenna to fit.
5. **Install Shock-absorbing Pads:** Use tweezers to pick the shock-absorbing pads and place them into the four spacers of the canopy for the O4 bracket.
6. **Mount O4 Module to Canopy:** Place the O4 module with the VTX antenna upward and the camera forward onto the canopy. Ensure the antenna is properly seated in its recess.
7. **Secure Canopy Screws:** Tighten the four M1.4*5 Phillips flat washer head tapping screws in sequence to secure the O4 module to the canopy. Verify that the screws are securely installed.
8. **Attach Camera Bracket to Canopy:** Align the camera bracket with the mounting holes and secure it to the canopy using two M2*3 hex screws from both sides. Ensure the coaxial cable is suspended and does not touch the O4 bracket to prevent interference.
9. **Insert Frame Shock-absorbing Balls:** Insert the shorter end of four 6.6mm shock-absorbing balls into the corresponding installation holes of the carbon fiber plate using tweezers. The higher ends of these balls should be exposed.
10. **Attach Frame to Flight Controller:** Pass four M2*10 cylindrical socket head cap screws through the four shock-absorbing balls from the bottom of the frame. Tighten these screws with an M2 screwdriver.
11. **Final Assembly:** Align the bottom holes of the O4 bracket with the shock-absorbing balls on the frame and place the bracket onto them. Insert the antenna cable of the flight controller into the O4 VTX connectors. Ensure the bracket camera faces the direction of the drone's head.

After completing the installation, carefully check the O4 bracket from various angles to ensure all shock-absorbing balls are tight and there is no risk of them falling off. Also, confirm the coaxial cable is suspended to prevent interference.

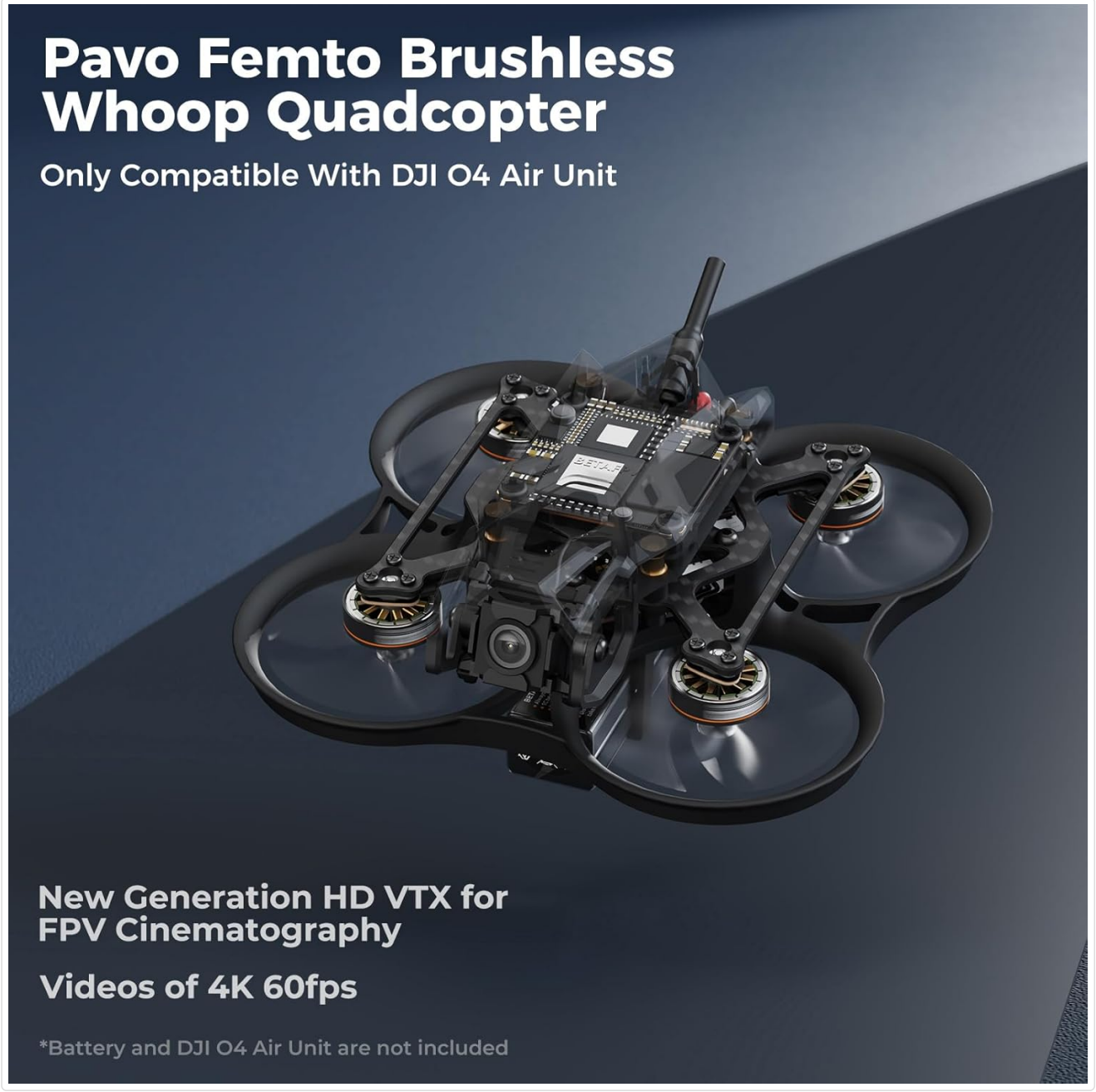


Figure 3: Close-up of the shock-absorbing components, crucial for stable video footage.

## 4. Specifications

Below are the technical specifications for the BETAFPV Pavo Femto Brushless Whoop Quadcopter:

| Specification | Detail |
|---|---|
| Brand | BETAFPV |
| Model Name | Pavo Femto |
| Video Capture Resolution | 4K |

| | |
|---|---|
| Video Capture Format | MP4 |
| Control Type | Remote Control (Remote Control not included) |
| Batteries Included | No (Rechargeable Battery Included: Yes, referring to the drone's internal battery system) |
| Product Dimensions | 5.1"L x 5.1"W x 2.5"H |
| Item Weight | 6.7 ounces (approx. 190g) |
| Flight Controller | F4 20A FC with dual BECs (9V 2A for DJI O4 Air Unit, 5V 3A for external devices) |
| Motors | LAVA 1102\|14000KV |
| Propellers | Gemfan 1611 3-Blade |
| Thrust-to-Weight Ratio | 6.75:1 |

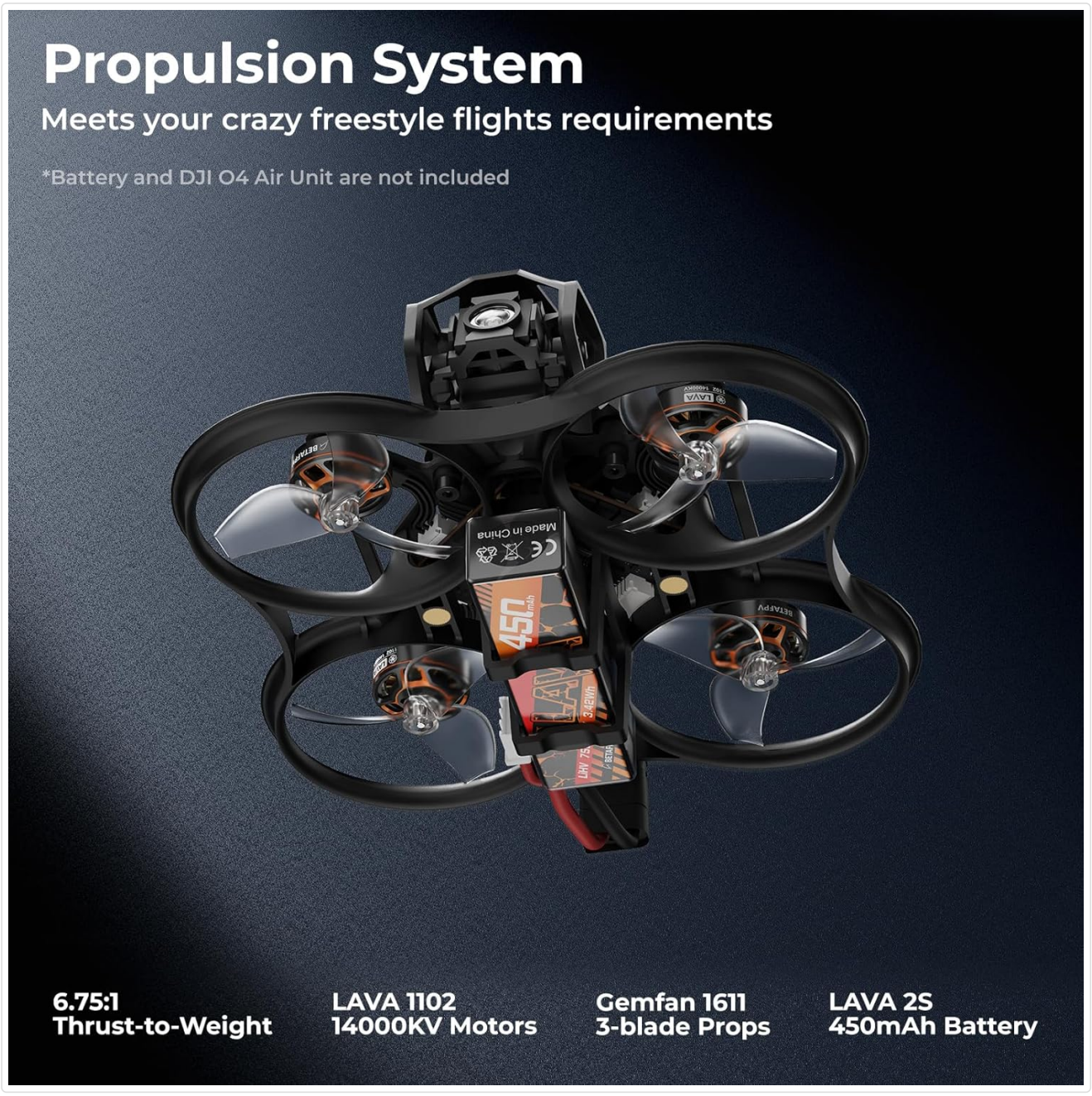


Figure 4: The Pavo Femto's propulsion system, including LAVA 1102|14000KV motors and Gemfan 1611 3-blade propellers.

## 5. Operating Instructions

The Pavo Femto is designed for both aerial videography and freestyle flying. Optimal performance is achieved with the recommended DJI O4 Air Unit (not included). Ensure your remote control and goggles (not included) are properly bound and configured according to their respective manuals before attempting flight.

### 5.1 Pre-Flight Checklist

- Verify all components are securely installed, especially the DJI O4 Air Unit and its shock-absorbing elements.
- Ensure propellers are correctly attached and free from damage.
- Check battery levels for both the drone and your remote controller/goggles.
- Confirm proper binding between the drone and your remote controller.
- Perform a visual inspection for any loose wires or debris.

### 5.2 Flight Modes and Tuning

The Pavo Femto comes with optimized PID and RATE settings for balanced performance. Users familiar with FPV drones may further fine-tune these settings via the flight controller software (e.g., Betaflight) for personalized flight characteristics. Refer to the flight controller's specific documentation for advanced tuning procedures.

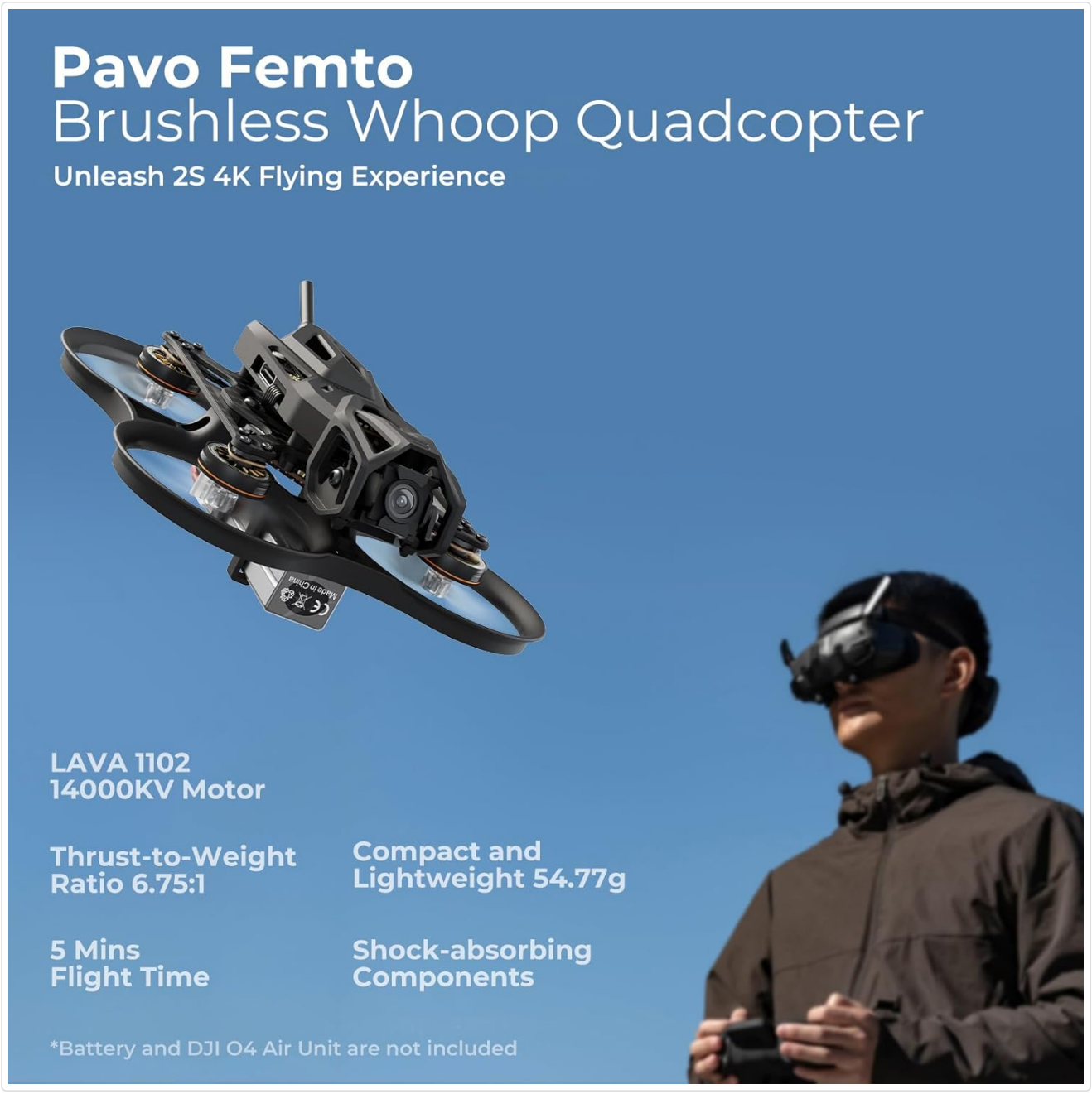


Figure 5: The Pavo Femto in action, demonstrating its suitability for both beginners and experienced pilots.

## 6. Maintenance

Regular maintenance is crucial for the longevity and optimal performance of your Pavo Femto Quadcopter.

- **Propeller Inspection:** Regularly check propellers for cracks, bends, or chips. Replace damaged propellers immediately to maintain flight stability and efficiency.
- **Motor Cleaning:** Keep motors free from dust, dirt, and debris. Use compressed air or a soft brush for cleaning.
- **Frame Integrity:** Inspect the frame for any signs of stress, cracks, or damage after crashes or hard landings. The Pavo Femto frame is designed for durability, but extreme impacts can cause damage.
- **Shock-absorbing Components:** Periodically check the shock-absorbing balls and pads for wear or displacement. Ensure they are securely in place to prevent "jello effect" in video footage.
- **Wiring and Connections:** Verify that all wiring and connectors are secure and free from fraying or corrosion.

- **Firmware Updates:** Check the official BETAFPV website periodically for firmware updates for the flight controller and VTX. Follow the provided instructions for safe updating.

## 7. Troubleshooting

This section addresses common issues you might encounter with your Pavo Femto Quadcopter. For more complex problems, please refer to the official BETAFPV support resources.

| Problem | Possible Cause | Solution |
|---|---|---|
| Drone does not power on | Disconnected battery; faulty battery; power cable damage. | Ensure battery is fully charged and securely connected. Inspect power cables for damage. |
| No video feed in goggles | VTX not powered; VTX antenna disconnected; incorrect VTX channel; faulty camera/VTX. | Check VTX power connection. Ensure VTX antenna is securely attached. Verify VTX channel matches goggles. Inspect camera/VTX for physical damage. |
| "Jello" effect in video footage | Loose shock-absorbing components; bent/damaged propellers; unbalanced motors. | Check and secure all shock-absorbing balls and pads. Replace damaged propellers. Inspect motors for debris or damage. |
| Drone drifts during flight | Uncalibrated accelerometer; damaged motor/propeller; incorrect PID tuning. | Calibrate accelerometer in flight controller software. Inspect motors/propellers. Adjust PID settings if necessary. |
| Loss of control/signal | Remote controller not bound; receiver antenna damage/placement; range issues. | Re-bind remote controller. Check receiver antenna for damage and ensure proper placement. Fly within recommended range. |

## 8. Warranty and Support

BETAFPV products are designed and manufactured to high quality standards. For warranty information, technical support, or service inquiries, please visit the official BETAFPV website or contact their customer support directly.

Official Website: www.betafpv.com

Please retain your proof of purchase for any warranty claims.