



**OFFSHORE AVIATION OA-2D**  
**GRYPHON**  
**LONG ENDURANCE VTOL**



**AIRCRAFT SPECIFICATION**

# OA-2D GRYPHON

## VTOL WORKHORSE

The Offshore Aviation OA-2D is a new full electric VTOL with a wingspan of 11.5 feet. The airframe is made entirely of carbon fiber which is lighter and more durable than other airframes that are made of fiberglass or composite materials.

The new VTOL features the quick-detach design which is easy to assemble and disassemble. The airframe utilizes 3 landing struts, which save space and weight, while providing stability during take-off or landing.

Flight time can be up to 4 hours depending on payload.

The complementary boom design allows for an unprecedented vertical takeoff and transition to forward flight. For more information on this, please see "Phases of Flight" passage below.

### FEATURES:

- Extremely tough durable design
- Redundancy throughout
- Weather resistant
- High resilience in harsh conditions
- Removable wings for transport
- Fully autonomous operation
- Flight time in excess of 3 hours
- Flexible specification
- Custom configurations available

**PLUS** tailored builds to match exacting or project-specific needs

## ELECTRIC

The OA-2D is an X4 VTOL with the ability to carry 11 lbs of payload.

Payload, sensors, communications, flight control, even the physical design of the aircraft can be adapted to align the OA-2D aircraft with any real world demand a project requires.

For more information on each aircraft please see the individual specification tables below. Because the OA-2D build is essentially a custom built in the USA, we encourage you to discuss specific requirements with us from the outset of your project.



# OA-2D GRYPHON

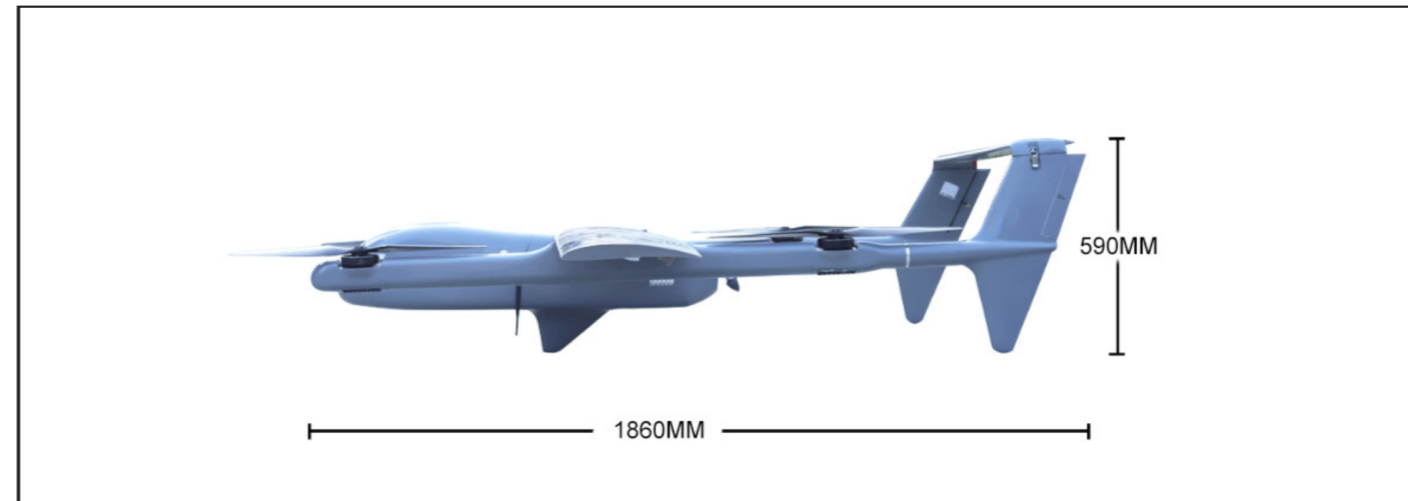
## VTOL Phases of Flight

### Vertical Take-Off

The OA-2D can take off in a hover and transition to forward flight and sustain flight for up to 4 hours. Offshore Aviation incorporated its know how with multi-rotor aircraft combining the best of VTOL handling with the endurance of fixed wing flight. During take-off, the X4 lift motors lift the OA-2D in a hover allowing it to climb to a safe altitude. Once it is roughly 30 meters above the ground, the aircraft's pusher propeller provides forward thrust causing it to accelerate. As the 11 foot wingspan begins to generate lift, the lift motors disengage and the aircraft flies like a conventional aircraft allowing the OA-2D to stay aloft for extended periods on aircraft battery alone.

### Vertical Landing

As the OA-2D approaches the landing zone, the lift motors are armed and spin up to a hover speed. In this configuration the pusher motor comes to a stop and forward velocity is reduced to a hover. The aircraft will normally be fitted with a single axis gimbal and small FPV camera in the nose for pilot view forward or straight down. This is a very useful aid for payload management and remote landing out of a hover.

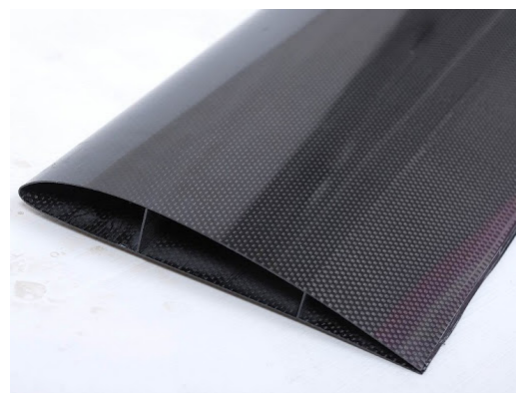


# OA-2D All-Electric

The **OA-8C Electric version** is highly agile and resilient, and can fly reliably in some of the worst conditions of any fixed wing, multi-copter aircraft.

The specification here is a guideline only to give an idea of what the aircraft is capable of, but we design and optimize all our aircraft to produce the best possible solution for our customers. Flight times quoted are realistic and reflect what you are likely to see flying in real world conditions.

Optimization for your particular application is highly recommended. Contact us to discuss what you need to achieve and see what we can offer!



**Carbon fiber construction makes the OA-2D lighter and more durable than other airframes**

PHYSICAL	
Configuration	X4 VTOL Configuration
Wingspan	~ 3500mm
Empty weight*	~ 11kgs (subject to spec)
Length	~ 1860mm
Height	~ 590mm
Operating voltage	37V – 44.4V nominal (10s – 12s 38,000Mah 25C LiPo)
Propeller size	28" dual blade
Anti-vibration mount	Optional
Flight controller	Various options available most commonly Pixhawk 2.1
FPV	1200 TVL 1 axis gimbal
Lights	DayBright navigation lights
FLIGHT	
Max speed	128.75 kph (80 mph)
Rate of climb/descent	Adjustable. 2 m/s default recommended
Max operating altitude	1.5km (5000 feet ASL)
Max distance from pilot	180km (111.85 miles)
Max range	Subject to flight speed and weather conditions
Flight time with recommended batteries	
No payload	> 3 hours 58 minutes
1kg payload	~ 3 hours 40 mins
3kg payload	~ 3 hours 25 minutes
5kg payload	~ 3 hours 10 minutes
Operating temperature	0–35°C
Max wind resistance	32.19kph (20mph)
Max take off weight	22kgs (48.5 lbs)
Max payload	Subject to battery choice
Weather	Subject to specification
Control link frequency	433Mhz – 2.4Ghz
Video link frequency	5.8Ghz (or alternative)
Autonomous operation	Yes
Failure modes	Multiple
Ready to fly weight	14.5 kg (32.13 lbs)

## Gear Installed:

- Radio: Futaba 14SG, Futaba r7008SB 8ch rx
- Autopilot: PixHawk 2.1, Here 2 GNSS GPS
- Telemetry: RFDesign RFD900X 915Mhz 1W radio
- Lighting: Day Bright LED Navigation lights
- Pusher Motor: Dualsky XM6360EA-19 220KV
- Pusher ESC: Hobbywing 120A 12s
- Pusher Propeller: 21x"
- VTOL Motor: (4) Eaglepower UA90 150KV
- VTOL ESC: (4) Hobbywing 80A 12S ESC
- VTOL Propeller: (4) Eaglepower UC2480L 24 x 8" Propeller





Offshore Aviation LLC  
45353 Saint George's Ave

Piney Point, Maryland 20674

[info@offshoreaviation.com](mailto:info@offshoreaviation.com)

T: (855) 243-3200

