



THE MULTI-PURPOSE UAV HELICOPTER FOR YOUR AERIAL PROJECTS



The Velos UAV is a professional UAV helicopter designed in way that it can be easily adapted in a variety of different applications. The unique payload rail system provides plenty of flexibility and free space thus allowing almost any possible payload to be mounted on the helicopter in a fast, easy and reliable way. Furthermore, it is very easy to switch between different equipment, e.g. remove a gimbal and add a thermal camera or a LIDAR in few minutes.

In addition, you can add simultaneously more than one payload. For example, in the front of the payload rail we can mount two small cameras like an FPV day or night and a thermal camera and we still have the most part of the rail available for a gimbal, LIDAR sensor, delivery box, magnetometers, a powerful flood light or whatever you may need to attach.

This is possible as the helicopter's payload rail has a total length of 55cm (21.5inch) and there are 14 sets of extruded bases along its length. They are placed along the rail every 4cm and there are M4 threaded holes in all of them. With 28 in total different locations for mounting payloads it is easy to integrate your payload in the way you wanted to be or even combine different payloads.

The Velos is CE certified with an IP65 rating.

WITH ALL THAT FLEXIBILITY AVAILABLE, THE ONLY LIMIT IS YOUR IMAGINATION

- ✓ A drone helicopter that is simple to fly in bad weather conditions, with more flight time and payload capacity than any multi-rotor in the same class.
- ✓ Fully redundant design with two motors and double major components makes it safer than all electric and gasoline helicopters to add your expensive equipment.
- ✓ Velos can fly with major failures such as motor failure, broken belt, gear one-way bearing failure, burned esc, battery failure, BEC failure, servo failure...
- ✓ Velos has the ability to add payload over the rotor including, sensors, 360 panoramic view cameras and ballistic parachute that makes it even safe.

FULLY REDUNDANT TWIN ENGINE DESIGN MECHANICS

The Velos core innovation is its twin engine **fully redundant design**. There is a set of every major component including the main motors, batteries, electronic speed controls (ESC), belts, and gears. Unlike most UAV helicopters that are based on common hobby grade helicopters, we chose to design the Velos UAV from scratch with three main objectives.

SAFETY – EFFICIENCY – RELIABILITY

The patented highly innovative drivetrain-gearbox renders Velos UAV the only UAV helicopter in its class with the ability to tolerate a complete failure of most major components allowing it to safely land and protect its payload and surroundings under those circumstances. The system automatically isolates the faulty part without introducing additional drag to the operational part of the drive-train. Any or all of the below listed types of failures can be tolerated by the Velos UAV's mechanics while these would lead a normal UAV to a crash.

Motor failure, broken belt, gear – one-way bearing failure, burned ESC, main battery failure, BEC failure, servo failure.

MORE PAYLOAD

Drone helicopters are capable of carrying heavier payloads and stay in the air for long flying times unlike multi-rotor drones that can carry light payloads with reduced flight times. This capability combined with fast cruising speeds and hovering ability makes the drone helicopter a one-way option for execution of demanding missions such as Search and Rescue.

LOW MAINTENANCE - HIGH RELIABILITY



Velos UAV is an extremely low maintenance helicopter. The simplicity of the twin electric power train requires replacing only a few ball bearings and two belts every about 80 – 100 hours but that can easily be verified with a simple inspection and can be performed in 15 minutes! Nothing like the gas powered UAVs.

There is a special training session for maintenance procedures, inspection and parts replacement.

WHAT CAN **GeoInspect** MEAN FOR YOU OR YOUR ORGANIZATION?

We will help you with all aspects and decisions of the configuration of your Velos platform.

- The choice of sensors, whether this is Video, Photogrammetry or LiDAR, even as a mix of them. Together with the possibilities of High Accuracy and Precision (RTK or PPK).
- Support of development of specialized mounting or payload bays for unmanned deliveries.
- Flight and Sensor training. But also with local regulations like SORA's.
- Assist in the field with the start of your projects.
- And off course after sales. We keep on helping you while you execute your project if you require so.

FLEXIBLE COMMAND & CONTROL + SOFTWARE

Velos is using customized firmware for the flight controller that is specialized for helicopters and is optimized through thousands of flight hours. This is compatible with all the Ardupilot supported ground control software packages like mission planner, Q ground control.

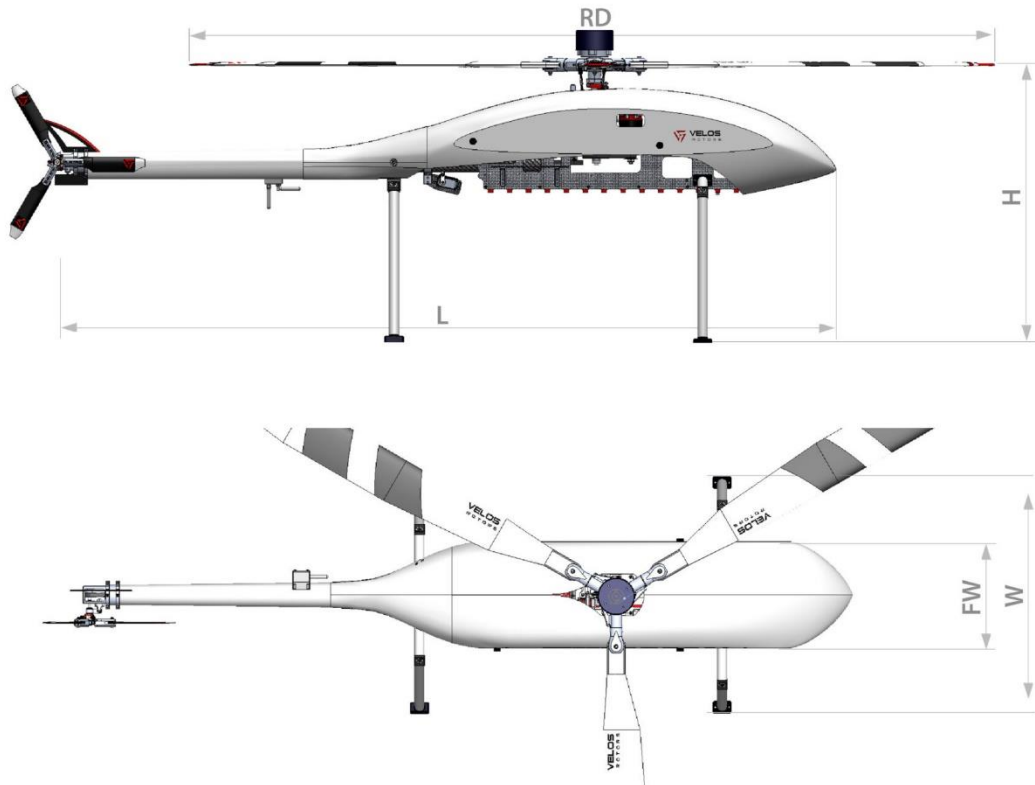
GeoInspect guided **UgSC** to adjust their specialized flight planning software suite to be used with single rotor platforms and many others. We can help you with your software requirements.



NOT ONLY VLOS BUT WE CAN HELP WITH YOUR BVLOS REQUIREMENTS AND AUTONOMOUS FLIGHTS

GeoInspect can make your Velos fly long distance securely with full control and real-time telemetry feedback whether this is on 4G/5G or even Inmarsat default or as fail-over.

Technical Specification



Physical

Rotor Diameter: RD = 1950mm

Length: L = 1720mm

Height: H = 450-650mm*

Width: W = 420-590mm*

Fuselage Width: FW = 230mm

*depends on skid configuration

** depend on configuration and weather conditions

Performance

Payload Capacity: **Multiple**

MTOW: Under **25kg**

Empty Weight: **8.5Kg**

Battery Weight: **4 - 10 Kg**

Payload Weight: **0.1 - 10 Kg**

Endurance: **30-90 mins****

Cruise Speed: **30 - 70 Km/h**

Min - Max Speed: **1-130 Km/h**

Contact us with your questions info@geoinspect.eu
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