

# VESPER

## PROFESSIONAL-GRADE MICRO UAV

The Vesper UAV from Vantage Robotics provides field operators with American-made ISR, extended flight time, unmatched low light performance, and a 3-axis stabilized tri-sensor payload. This complete aerial reconnaissance system was designed to solve the pain points of operators utilizing aerial data collection in the field today.

Our light, rugged, and truly portable stealth drone is backpack ready, easy to use, and has been tested with thousands of flight hours. Vesper's modular design and uncompromising build quality meet the needs of a range of mission-critical operations at a moment's notice.



### **CAPABLE CAMERA**

48x zoom, 4K starlight EO, 320 or 640 IR

### **EXCEPTIONAL ENDURANCE**

50 min/ 40 km total endurance

### **PORTABLE**

1 kg / 2,300 cm3 packed

### **STEALTHY**

Unseen and inaudible at 50 m

### **MODULAR**

Quick assembly and reconfiguration

### **EXTENSIVE RANGE**

6 km GCS video range

### **SECURE**

AES-256 encryption / Made in the USA / NDAA compliant/ Blue UAS





## ■ Specification

### AIRCRAFT

Flight time – Recon Rotor Set	50 minutes
Flight time – Shrouded Rotor Set	32 minutes
Airframe mass	597 – 697 g (depending on battery used)
Flight speed	20 m/s / 45 mph / 72 km/hr
Stealth	<37 dBA at 25 meter range
Visibility	Not visible at 100 meters seen against terrain
Operational temperature range	-20° – 45° C
Ingress protection	IP-53 in flight
Flight range	45 km / 28 miles
Position control sensors	Redundant GNS, GNSS, VIO, and optical flow for position control indoors and outdoors
Avoidance	Downward facing sonar, front and rear avoidance available as future software update

### SECURITY

Origin	Designed, sourced, and built in USA
Encryption	AES-256 on all communications and data storage
GPS-denied flight	Capable with VIO and Optical Flow
Security compliance	NDAA and TAA compliant, Air Force ATO granted
Construction	Bonded construction prevents tampering
Data transmission	No remote data transmission

### COMMUNICATIONS

Data link range for video streaming	8 km max with directional antenna 4 km max with standard antenna
Video stream	1080p, h.265 encoding
Frequencies available	2.4 GHz, 1.8 GHz
Bandwidths	Selectable 1, 2, 4, or 8 MHz
High speed data transfer to GCS	Wi-Fi

### PORTABILITY

Launch time	Less than 90 seconds from case to air
Field Case	IP67 waterproof
Durability in Field Case	Withstands 90 kg crush and 1m drop
Weight	1 kg/ 2300 cm <sup>3</sup> packed in field case
Transport Case	Watertight, dustproof, dent-proof, with hasps and foam-lined interior

### GIMBAL & CAMERA

Gimbal	3-axis stabilized
Gimbal pitch control	User controllable +30° – -90°
Sensors	Dual EO sensors + thermal
Sensors	Dual 4K Sony IMX 334 EO image sensors, 3840 x 2160 px 8 MP still images
Low light capability	<0.01 lx
Optical and digital zoom	48x combined zoom (72° – 1.5° HFOV)
Navigation lens	6 mm f/1.0
Telephoto lens	25 mm f/2.4
Thermal sensor	320 x 240p uncooled vanadium oxide with 65 mK sensitivity – upgradeable to the 640 x 480
Video recording format	1080 or 4K MPEG-4

### MODULARITY

Battery options	Endurance battery attaches magnetically and swaps in seconds
Rotor set options	Shrouded Rotor Set for indoor and flight near people, Reconnaissance Rotor Set for endurance, stealth and speed
Gimbal	Field replaceable, can be swapped in minutes