



Superior endurance in critical  
unmanned aerial applications.

**SDO 50 V2 VTOL**

## Product Description

Our **VTOL (Vertical Take Off and Landing) SDO 50 V2** is a multi purpose, unmanned helicopter system, that can be operated within or beyond visual line of sight. The unique design features of the SDO 50 V2 provide a **superior payload capacity, long endurance, stable flight patterns and a high degree of safety features.**

**An integrated autopilot system** allows autonomous take-off and landing procedures as well as autonomous flight patterns.

The SDO 50 V2 uses the powerful construction principle of **intermeshing rotors** (going back to Anton Flettner).

It functions through a set of two rotors turning in opposite directions with each rotor mast mounted with a slight angle to the other so that the blades intermesh without colliding. The arrangement also allows the helicopter to function without a tail rotor, which **saves additional power.**

**As a result, the SDO 50 V2 currently is the only flying UAV in the market which is capable to lift more payload than its own empty weight.**



## Surveillance

Aerial Surveillance refers to using drones equipped with various types of equipment including live feed video cameras, infrared cameras, heat sensors, radiation sensors or radar to provide airborne information to decision makers on the ground, typically in real-time. UAVs can be used to perform highway, coastal and border surveillance and thereby watch for cases of illegal border crossing, deforestation activities, smuggling or wild animal traffic.

## Search & Rescue

Search & Rescue refers to using drones equipped with specific equipment to locate and help missing people or animals in inaccessible or hazardous areas (land or water), including in difficult weather conditions. Once target persons/animals are located, emergency gear can be airlifted and dropped to support their recovery and rescue (e.g. survival kits, medical devices, food, rafts).

Missions are possible under difficult or dangerous circumstances (e.g. bad weather, darkness, flying over hostile or otherwise unsafe areas) when manned operations are no feasible alternative. Emergency gear can be airlifted to inaccessible/hazardous places.



## Inspections

Regular inspections of critical infrastructure, such as high tension power lines, gas and oil pipelines and power plants are imperative for their uninterrupted operation and security. Downtime of infrastructure is costly and inspection/maintenance operations can often be dangerous to personnel. In the recent years UAVs have proven to be invaluable in these operations.

The SDO 50 V2 can also conduct topographic surveys to assess site feasibility and offer in-depth information of environmental risks while being equipped with top of the range LiDAR, hyperspectral, multispectral or high definition camera modules.

## Fact box SDO 50 V2:

Rotary system:	Flettner double rotor system (4 blades)
Rotor diameter:	2×2,82 m
Engine:	high performance turbine
Fuel:	JET A1
Fuel consumption:	approx. 15 L / hour
Dimension l/w/h:	2,32 m×0,7 m×0,92 m
Data link:	40 km, extendable, radio line of sight
Empty weight:	42 kg
Payload:	45 kg (including fuel)
MTOW:	87 kg (including fuel)
Max. fuel capacity:	main tank 13 L; additional tanks available for longer flying time (2×4 L; 2×7 L; 2×13 L; 2 x 17 L)
Max. flight time:	Up to 3.1 hours
Max. service ceiling:	10,000 ft (3,000 m) AMSL
Max. indicative air speed:	39 kn (20 m/s) (72 km/h)

Note: All performance data about the SDO 50 V2 is subject to change, depending on final payload configuration.



### Key differentials

- ⚡ Superior payload capacity (45 kg)
- ⚡ Long endurance (up to 3.1 hours)
- ⚡ Stable flight patterns
- ⚡ Safety features
- ⚡ Swiss quality and service
- ⚡ High benefit-cost ratio

### Easy to operate

- ⚡ Ready to fly in 15 minutes
- ⚡ A two-person crew only is needed
- ⚡ To be transported in the back of an SUV or inside a van

## About us

SwissDrones is a young high-tech company based in Switzerland, which specializes in the development and production of unmanned helicopters (UAVs) for superior endurance in critical unmanned aerial applications.

# SWISSDRONES

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