PRODUCT ENGINEERING / TECHNICAL GUIDE

SV-V15

VTOL fixed-wing drone



Product manual · Selection and application

Specifications / Structure and interfaces / Integration / Operation and care

Reorganized from available model documentation. The agreed specification defines the delivered configuration.

01 / PRODUCT & APPLICATION

Selection and application guide

SV-V15 combines vertical take-off and landing with a 5 m-span fixed-wing platform for wider-area inspection. Visible and thermal gimbal specifications support an early review of imaging, mass and interfaces. The 16-hour endurance entry explicitly concerns a heavy-fuel engine and must not be assumed for the gasoline configuration.

Design and application value

A mission platform combines the airframe, propulsion, flight control, communications and payload. Surveying emphasizes imaging and positioning; inspection emphasizes viewing geometry and coverage; transport emphasizes restraint and centre of gravity. Product specifications define initial limits, while mission results require complete-system validation.

Choosing the right configuration

Prepare payload mass, dimensions, power and interfaces, plus route length, duration, take-off space and wind conditions. Interpret nominal endurance with load, energy reserve and environment. Control range and ceiling are not operating permissions. Record acceptance criteria in the project configuration.

02 / SPECIFICATIONS 01

Specifications and configuration

Figures follow the available model documentation. The agreed specification defines the delivered configuration.

Parameter	Specification
Airframe material	Carbon fibre and glass fibre
Wingspan	5000 mm
Rated payload	≥10 kg
Maximum payload	15 kg
Maximum take-off mass	55 kg
Fuel	No. 92 gasoline (source designation)
Service ceiling	4500 m
Nominal operating / flight time	16 h (heavy-fuel engine configuration)
Cruise speed	60 km/h
Climb rate	5 m/s
Control radius	30 km
Wind resistance (source)	Force 6
Optical zoom	30×
Optical spectral range	0.4-0.9 μm
Focal length	4.3-129 mm

The fuel row specifies No. 92 gasoline, whereas maximum endurance refers to a heavy-fuel engine. These are different configuration conditions. Control radius, ceiling and wind figures do not establish locally authorized operating limits.

02 / SPECIFICATIONS 02

Specifications and configuration

Figures follow the available model documentation. The agreed specification defines the delivered configuration.

Parameter	Specification
Video output	HD-SDI, 1080P, 30 Hz
Thermal imager type	Uncooled long-wave infrared
Infrared spectral range	8-14 μm
Infrared detector pixels	640 × 512
Noise-equivalent temperature difference	50 mK
Gimbal dimensions	120 × 183 mm
Gimbal mass	860 g
Gimbal operating temperature	-20 ~ 60 °C

The fuel row specifies No. 92 gasoline, whereas maximum endurance refers to a heavy-fuel engine. These are different configuration conditions. Control radius, ceiling and wind figures do not establish locally authorized operating limits.

05 / INTEGRATION & CARE

Installation, operation and care

Installation and integration

Remove propellers before parameter changes or firmware updates. Check airframe heading, controller and positioning-module orientation, propeller rotation and electrical connections. Use the fitted controller’s version-specific procedure for calibration, mode switching and failsafe verification. After loading, check balance and camera obstruction before controlled flight tests.

Operation and maintenance

Inspect propellers, fasteners, battery or fuel system and communications before and after flight. Log payload configuration, flight time and anomalies to track wear. Abnormal vibration, energy warnings, unstable positioning or severe weather call for aborting under the validated contingency procedure and inspecting the aircraft.

Commissioning record

01 Confirm model, configuration, software and document versions.

02 Record load, environment, supply and mission conditions.

03 Verify protective functions, stopping and abnormal-condition responses.

04 Retain key readings, photographs and inspection records; agree a maintenance plan.

06 / OPERATING BOUNDARIES

Operating boundaries and technical review

01 Operation requires trained personnel familiar with the fitted configuration. Isolate power and prevent unintended startup before servicing or connection changes.

02 This guide covers selection, structure and operating principles. Controller calibration, arming commands, LED codes and failsafe actions vary by version; use the confirmed procedure for the delivered controller. Do not infer actions from unclear symbols in a legacy scan.

03 Assess electrical, rotating-part, pinch-point and work-at-height risks for the actual site. Keep people clear of propellers, tracks, manipulators and loaded cables as applicable. Stop and inspect when abnormal conditions arise.

04 Reference range, duration, slope and productivity figures are not guarantees for every environment. Revalidate system performance and protective behavior after changing payload, power, controller or structure.

05 Product names and protection descriptions do not replace certificates. For explosive atmospheres, firefighting, aviation or special environments, confirm the applicable documentation and its match to the delivered configuration.

07 / DOCUMENT NOTES

Specification and configuration notes

01 The fuel row specifies No. 92 gasoline, whereas maximum endurance refers to a heavy-fuel engine. These are different configuration conditions. Control radius, ceiling and wind figures do not establish locally authorized operating limits.

Source and edition

Technical data have been reorganized from the available product attachment and project documentation. Originals are retained in the project archive. Layout edition: September 2026.

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Use the mutually confirmed delivery documents for purchasing, installation and acceptance. If drawings, nameplates or hardware differ from this guide, verify the applicable model and version before operation.

Business enquiries: see the next page.

Business enquiries

Product selection · Project enquiries · Technical support

SV-V15

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