PRODUCT ENGINEERING / TECHNICAL GUIDE

SV-M30

Solar-panel cleaning 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

Solar-cleaning productivity depends on flight, water supply and site organization together. The reference figure of approximately 900-1000 m² in 15 minutes is not a full-day production rate: relocation, refilling, obstacles and soiling all affect progress. A representative trial area helps establish workable coverage and acceptance criteria.

Design and application value

A cleaning solution combines aircraft, cleaning payload, water supply, mission planning and site organization. Suitable paths and spray coverage can reduce repeated passes, but results depend on soiling, surface material, water quality and settings. Define the cleaning objective before matching equipment and process.

Choosing the right configuration

Survey array or façade dimensions, materials, joints and obstacles; confirm power, water and exclusion areas. Check permitted cleaning methods for PV modules. For façades, assess nozzle reaction, hose mass and corners. Validate reference productivity on a representative trial area.

02 / SPECIFICATIONS 01

Specifications and configuration

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

Parameter	Specification
Reference cleaning rate	Approx. 900-1000 m² / 15 min under reference conditions
Motor-to-motor diagonal	2050 mm
Unfolded dimensions	1570 × 1570 × 715 mm
Folded dimensions	845 × 860 × 775 mm
Airframe mass	36 kg
Propulsion configuration	4 motors; maximum output per motor 7900 W
Rated payload	30 kg
Propeller	43 × 13.5 in; carbon-fibre composite
Route speed	0.5-25 m/s
Operating height	Adjustable 1-1000 m; actual limits depend on local regulations and conditions
Flight and route functions	Altitude hold, position hold, autonomous routes and return-to-home; waypoints, obstacle zones and route correction

05 / INTEGRATION & CARE

Installation, operation and care

Installation and integration

Begin with a low-risk trial area and verify water delivery, hover stability, standoff and coverage before adjusting path and speed. Settings must suit the surface or module manufacturer’s requirements. Define withdrawal routes and ground-team roles for water loss, power loss or changing wind.

Operation and maintenance

Record before-and-after images, residual soil and surface condition for acceptance. Track flight, refilling, relocation and setup separately. After work, flush filters and nozzles, inspect hoses and electrical connections, and dry as required. Evaluate productivity using total working time, not spray time alone.

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 Project-brief figures support preliminary selection and must be confirmed for the cleaning payload, module requirements and local operating rules. No measured generation uplift is supplied; no percentage gain is implied.

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.

Existing project brief / content/svtech-resources.php

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-M30

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