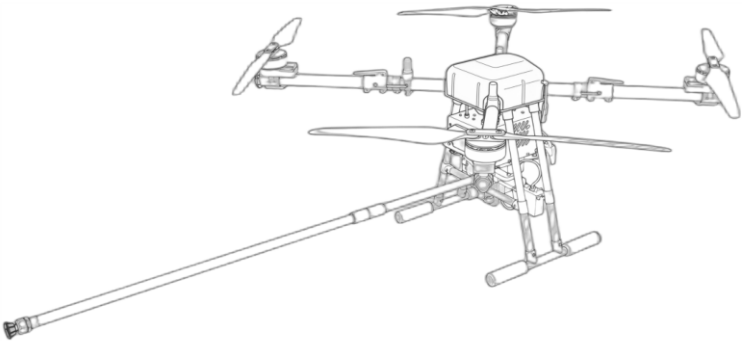
# EAUAV Vertex C80

## Cleaning Drone User Manual

Facade Cleaning Configuration

| Model | Language | Release date |
| --- | --- | --- |
| Vertex C80 | English | 2026-02-23 |



*This manual is intended for the standard water-fed facade cleaning configuration. Optional solar/rooftop cleaning kits, custom payloads, and locally sourced pump models may require separate supplements.*

Manufacturer: Yifei Technology Co., Ltd. (Brand: EAUAV)
Website: https://eauav.com | Support: support@eauav.com

# Document Control and Applicability

| Field | Value |
|---|---|
| Document type | User manual - print edition |
| Product model | EAUAV Vertex C80 cleaning drone |
| Applicable configuration | Water-fed facade cleaning configuration, single 14S 46 Ah battery pack, spray boom/nozzle assembly, G20 remote controller |
| Primary use | High-rise facade and window cleaning with external water supply (ground pump + hose) |
| Intended audience | Qualified operators, service technicians, distributors, and end customers |

**Important:** This manual does not replace pilot training, local operating procedures, or local regulatory approvals.
Always verify the delivered hardware against the packing list, battery label, and equipment nameplates before operation.

# Section Overview

Use this overview to navigate the print edition. Section numbering is fixed so translated editions can stay aligned with the same structure.

**1. Safety and Compliance -** Core warnings, legal responsibilities, operating environment, and battery safety.

**2. Product Overview -** Applicable configuration, supplied items, aircraft, controller, and spray-system description.

**3. Site Survey and Pre-flight -** Crew roles, worksite preparation, test patch, and pre-flight checklist.

**4. System Setup -** Water supply, aircraft setup, controller settings, calibration, and battery charging.

**5. Operating Workflow -** Takeoff, manual cleaning, AB mode, area mode, and landing.

**6. Water Quality and Chemical Use -** Water selection, detergent boundaries, and facade sensitivity controls.

**7. Emergencies and Abnormal Events -** Immediate actions and recovery logic for the most common risk scenarios.

**8. Maintenance and Care -** Daily cleaning, scheduled inspections, battery care, and pump maintenance.

**9. Troubleshooting -** Typical faults, likely causes, and field-level corrective actions.

**10. Technical Specifications -** Controlled dimensions, masses, performance, propulsion, and battery data.

**11. Warranty and Service -** Warranty periods, exclusions, and support contact details.

# 1. Safety and Compliance

**CRITICAL:** Read this manual before powering on or operating the aircraft. Facade cleaning involves rotating propellers, high-pressure water, hose drag, wet surfaces, and close proximity to structures.

## 1.1 General safety

- This product is not a toy. Keep it out of reach of children and do not allow operation by anyone under 18 years old.
- Stay clear of rotating propellers and motors. Never approach the aircraft until the motors have fully stopped.
- Keep both hands available for control while the motors are spinning. Do not answer calls or perform unrelated tasks during flight.
- Never stop the motors in flight unless immediate collision or entanglement creates a direct threat to people and no controlled landing is possible.
- Use only approved mounting points, approved propellers, approved batteries, and approved spray-system components.
- Do not operate the aircraft if any component is damaged, loose, abnormally hot, leaking, or wet where it should remain dry.

## 1.2 Laws, restrictions, and crew responsibilities

- Operate only in compliance with local laws, permits, and airspace restrictions.
- Maintain visual line of sight (VLOS) at all times.
- Use a minimum two-person team for facade projects: one remote pilot and one observer/ground-crew member for hose and pump management.
- Establish a controlled exclusion zone below and around the work area. Keep pedestrians, vehicles, and non-essential personnel out of the drop zone.
- Do not fly near manned aircraft, airports, border areas, or other prohibited locations.
- Obtain third-party liability insurance where required or recommended.

## 1.3 Operating environment

| Parameter | Requirement / guidance |
|---|---|
| Temperature | -10 to 40 C operating range. Preheat the battery in cold conditions if required by the battery label. |
| Humidity | 0 to 90% |
| Wind | Declared wind resistance: 10 m/s. For close-to-wall facade work, |

| Parameter | Requirement / guidance |
|---|---|
| | use a more conservative site limit (for example, 8 m/s or less) if gusts are unstable. |
| Precipitation | Do not fly in rain, snow, hail, lightning, heavy fog, or other adverse weather. |
| Electromagnetic interference | Avoid high-voltage lines, power stations, large steel structures, cell towers, and other sources of interference whenever possible. |
| Typical facade operating height | Normal facade work is usually 80 m AGL or less. Operations between 80 and 100 m require site-specific review, hose-management planning, and clear reserve margins. |
| Facade standoff | Absolute lower boundary: do not allow the aircraft front to approach the facade closer than 2.5 m unless validated by a site-specific SOP. Recommended default radar set distance: 5.0 m. |

## 1.4 Battery safety

- The shipped aircraft uses a single 14S 46,000 mAh battery pack. Pack label, dangerous-goods paperwork, and charger instructions always take precedence for chemistry-specific handling.
- Use only approved chargers and batteries. Confirm the pack nominal voltage, charge limit, and chemistry on the delivered battery label before first use.
- Nominal pack data for the South Africa configuration: 51.8 V nominal, 58.8 V maximum charge, 46,000 mAh rated capacity, 138 A maximum discharge current, approximately 8.38 kg pack mass.
- Allow the battery to cool after flight before charging. Never charge a hot, swollen, wet, punctured, or damaged pack.
- Do not leave batteries unattended while charging.
- If the battery will not be used for more than 10 days, store it at approximately storage voltage (about 3.85 V/cell, or according to the pack label).
- Do not over-charge, over-discharge, short-circuit, crush, or expose the battery to fire.

# 2. Product Overview

## 2.1 Intended use

The EAUAV Vertex C80 is an industrial multirotor drone designed for water-fed facade and window cleaning. It combines a foldable quad-rotor flight platform with a fixed spray boom and an external water supply from a ground-based pump and high-pressure hose. The aircraft does not carry an onboard water tank in this standard facade configuration.

- Primary work modes: Manual spot cleaning, Vertical AB mode, and Area mode.
- Positioning: GNSS and RTK support, with dual-antenna heading in configurations where RTK is installed or enabled.
- Safety support: forward obstacle radar and FPV / situational-awareness camera as configured.
- This print edition applies to the facade cleaning configuration only. Optional solar/rooftop cleaning kits require a separate operational supplement.

## 2.2 Delivered items and configuration control

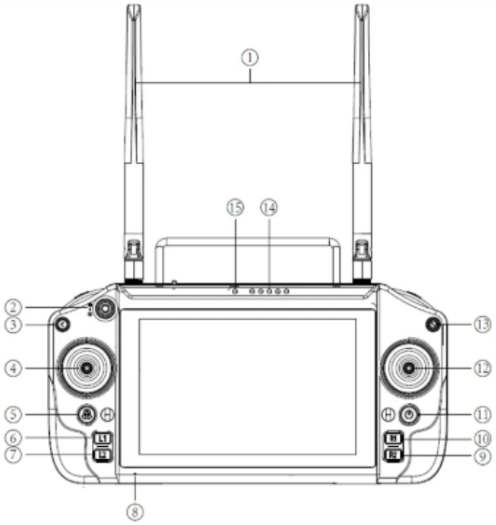
| Item | Status in this manual | Notes |
|---|---|---|
| Aircraft platform | Standard | Foldable Vertex C80 quad-rotor airframe with approved cleaning payload mounting points. |
| G20 remote controller | Standard | 7-inch industrial controller; button mapping may vary by software build and order configuration. |
| Battery pack(s) | Order-specific quantity | This manual assumes one approved 14S 46 Ah pack installed at a time. Continuous operations typically use at least two packs. |
| Battery charger | Standard / order-specific | Example configuration uses a 3000 W multi-channel charger with AC 110-240 V input. |
| Spray boom and nozzle set | Standard | Facade nozzle set only in this edition. |
| Forward obstacle radar / camera | Recommended | Forward obstacle radar for keeping safe distance from facades; FPV camera for pilot's view. |
| RTK base station | Optional | Required only where local operations cannot rely on network RTK (Ntrip) or where the customer ordered the base station. |
| High-pressure pump | Manufacturer-supplied or locally | Electrical input and local plug type depend on the supplied pump model. |

| Item | Status in this manual | Notes |
|---|---|---|
| | sourced | |
| 100 m high-pressure hose / hose reel | Standard or locally sourced | Always verify hose rating, weight, and couplers before operation. |
| Remote ID module | Region-specific | Installed only where required by the order or local regulations. |
| Solar/rooftop cleaning kit | Not covered here | Separate accessory with separate operating supplement. |

## 2.3 Aircraft and spray-system characteristics

- Airframe: foldable quad-rotor design with carbon-fiber arms and fixed landing gear.
- Propulsion: approved 36 x 19 inch folding propellers driven by T-motor A10L motors (KV 110 in the South Africa configuration).
- Wheelbase / rotor-to-rotor geometry: 1500 mm.
- Spray system: fixed boom with interchangeable fan nozzles (0 deg / 15 deg / 25 deg / 40 deg) and foam nozzle.
- External supply concept: water and detergent remain on the ground. The drone carries the spray assembly only; hose mass and hose drag are operational constraints, not permanent payload data.

## 2.4 Remote controller (G20)




| Control / element | Primary function |
|---|---|
| Three-position flight-mode switch | Select the active flight mode according to the installed software build. |
| Left joystick | Throttle and yaw. |
| Right joystick | Pitch and roll. |
| Power button | Power on / off the remote controller. |
| Return-to-home / action button | User-selectable emergency or return function; verify its behavior before each mission. |
| Pause button | Pause or interrupt automatic mission execution. |
| L1 / L2 / R1 / R2 buttons | User-configurable buttons. Assignments vary by software build and optional kits. |

| Control / element | Primary function |
|---|---|
| | L1: turn on/off obstacle radar<br>L2: Solar/rooftop nozzle oscillating function on/off |
| Jog wheel | Camera or gimbal pitch control when equipped. |
| USB / Type-C / SIM ports | Upgrade, data, charging, or connectivity interfaces according to controller configuration. |

## 2.5 Nozzle guidance and ground equipment

| Nozzle | Typical use |
|---|---|
| Red (0 deg) | High-impact point cleaning for stubborn local contamination. Use conservatively. |
| Yellow (15 deg) | Narrow-strip cleaning where more concentrated force is needed. |
| Green (25 deg) | Standard facade cleaning for general-purpose washing. |
| White (40 deg) | Lower-pressure coverage or soap / chemical application. |
| Foam nozzle | Foam or detergent application where site-approved. |

Ground pump note: example project sets may use an AC 220 V pump, but the actual electrical input depends on the supplied or locally procured pump model. Always follow the pump nameplate, local plug standard, and RCD / earth-leakage protection requirement for wet operations.

# 3. Site Survey and Pre-flight

## 3.1 Crew, worksite, and test patch

- Minimum crew: one qualified remote pilot plus one observer / ground-crew member for hose, pump, and exclusion-zone control.
- Define a takeoff / landing zone (TLZ) on a flat, stable surface with clear vertical clearance.
- Establish barriers, cones, or tape to keep people and vehicles outside the work area below the cleaning zone.
- Define the pump location, water source location, hose route, and emergency landing area before powering on the aircraft.
- Identify power lines, antennas, reflective corners, protruding structures, trees, loose facade elements, and pedestrian traffic before flight.

**Mandatory test patch:** Before full operation, clean a 2 m x 2 m representative area using the planned pressure, nozzle, detergent, and dwell time.
Inspect for cleaning effectiveness and any adverse impact on glass, seals, joints, coatings, or other sensitive materials before scaling up.

## 3.2 Pre-flight checklist

| Check | Status |
|---|---|
| Local permissions, worksite brief, and crew communication confirmed | [ ] |
| Exclusion zone and TLZ established | [ ] |
| Weather and wind within site limit | [ ] |
| Aircraft, propellers, arms, locks, and landing gear inspected | [ ] |
| Spray boom, nozzles, couplers, and hose connections secure | [ ] |
| Pump inlet filter clean and water source ready | [ ] |
| Hose purged of air before aircraft connection | [ ] |
| Battery pack and controller charged and inspected | [ ] |
| RTK / GNSS quality acceptable; RTK FIX green if used | [ ] |
| Radar setting and obstacle distance verified | [ ] |

| Check | Status |
|---|---|
| Failsafe behavior verified: link loss hover-first; low battery plan reviewed | [ ] |
| Calibration status checked; perform calibration only if required | [ ] |
| Emergency landing area clear and ground crew roles confirmed | [ ] |

*Calibration is not required before every flight. Perform compass / IMU calibration only when the conditions in Section 4.4 apply or when the software prompts you to do so.*

# 4. System Setup

## 4.1 Water-supply setup

1. Connect the inlet filter and suction line to clean water or to an approved diluted cleaning solution.
2. Place the pump on a stable surface and connect it to a grounded power source that matches the pump nameplate.
3. Connect the high-pressure hose to the pump outlet and route it so it cannot snag on streetlights, trees, sharp corners, or facade details.
4. Purge air before connecting to the drone: run water through the hose for about 30 seconds until bubbles are removed.
5. Connect the hose to the aircraft quick-release coupling and pull gently to verify that the connection is locked.

## 4.2 Aircraft setup

1. Unfold all arms and lock all latches or sleeves.
2. Inspect propellers for cracks, chips, looseness, or deformation.
3. Install the spray boom and selected nozzle. Tighten all fasteners.
4. Inspect the hose connection and verify there is no leak path at the aircraft coupling.
5. Install the battery and secure its mechanical retention system.
6. Power-on sequence: remote controller first, then aircraft, then app / control software.

## 4.3 Recommended controller and app settings

- Front obstacle radar: ON for facade operations unless a validated site-specific SOP allows another setting.
- Recommended default radar set distance (aircraft front to facade): 5.0 m.
- Approximate boom length: 2.0 m. Approximate nozzle-to-facade standoff = radar distance - boom length = about 3.0 m at the 5.0 m default setting.
- Working nozzle standoff: typically 2 to 3 m depending on facade sensitivity, nozzle angle, and spray pressure.
- Recommended failsafe on RC link loss: HOVER (recommended for hose-fed facade cleaning).
- Factory example low-battery thresholds often seen in the app: warning at 47.0 V and critical at 42.0 V. Verify actual thresholds on the delivered system before each mission.

> **Low-battery logic used in this print edition:**
>
> Level 1 warning: finish the current pass, do not start a new pass, and prepare to descend.
>
> Level 2 / critical warning: STOP SPRAY -> HOVER FIRST -> ASSESS -> CONTROLLED DESCENT / LANDING.
>
> Use RTH only if the return path is clear and hose risk has already been controlled.

## 4.4 Calibration when required

Perform calibration only under the following conditions: first flight, transport over approximately 100 km, crash or strong vibration, flight-controller / sensor replacement, or when the software prompts for calibration.

### Compass calibration

1. In the app, start compass calibration. The flight-control indicator will enter calibration mode.
2. Rotate the aircraft horizontally for 2 to 3 turns until the first axis is accepted.
3. Rotate the aircraft vertically for 2 to 3 turns until the second axis is accepted.
4. If calibration fails repeatedly, stop and investigate before takeoff.

### IMU / accelerometer calibration

1. Place the aircraft on a level surface.
2. Start accelerometer / IMU calibration in the app.
3. Do not touch the aircraft until the process is complete and the software confirms success.

## 4.5 Battery installation and charging

1. Inspect the pack label, terminals, connector, casing, and retention features before installation.
2. Insert the approved battery pack into the aircraft battery bay and secure the retention strap / latch.
3. Connect the power plug fully; confirm there is no partial engagement or exposed conductor.
4. Connect the charger to an AC 110-240 V, 16 A capable source as required by the charger manual.
5. Connect the battery to the charger, select the required mode (fast, standard, slow, or storage), and start charging according to the charger instructions.
6. Never leave batteries unattended while charging. Fully charge before operations unless the mission plan or battery label states otherwise.

# 5. Operating Workflow

## 5.1 Takeoff and initial hover

1. Confirm system initialization is complete and that flight warnings are understood.
2. Verify GNSS / RTK status, control-link health, and mission mode before arming.
3. Arm the motors using the configured method in the delivered software build.
4. Lift off gently and climb to approximately 3 m for an initial hover check.
5. Check stability, hose behavior, pump response, and controller response before moving toward the facade.

## 5.2 Recommended speeds and margins

| Parameter | Recommended value / limitation |
|---|---|
| Takeoff speed | <= 2.5 m/s |
| Landing speed | <= 1.5 m/s |
| Climb rate | <= 5 m/s |
| Controlled descent rate | <= 3 m/s |
| Typical cleaning speed | 1.0 to 1.5 m/s |
| Maximum horizontal airspeed | <= 13.8 m/s by flight-control limit; in facade cleaning typically <= 11 m/s |

*Do not use aggressive turns, rapid climbs, or prolonged high-altitude hover with hose tension. Close-to-wall work should always use conservative, low-speed precision flight.*

## 5.3 Manual mode (spot cleaning)

1. Select manual work mode in the app and confirm the physical mode switch position.
2. Position the aircraft in front of the cleaning area using small, deliberate stick inputs.
3. Ground crew starts the pump only after the aircraft is stabilized at the working distance.
4. Stop the pump before repositioning, turning, or landing.

## 5.4 Vertical AB mode (semi-automatic)

1. Enable the front obstacle radar and verify the standoff distance setting.
2. Select Vertical AB mode in the app.
3. Record Point A at the start of the upper boundary, then record Point B at the opposite side of the same upper boundary.
4. Set route spacing and cleaning speed according to facade condition and overlap requirement.

5. Confirm radar is ON and that the set distance remains within the approved facade margin.
6. Start the task and observe the first automatic pass closely. Abort immediately if GNSS quality, hose behavior, or facade clearance is not stable.

## 5.5 Area mode

1. Select the mission / area-planning function in the app.
2. Mark the area corners in sequence and review the generated path.
3. Set line spacing, angle, and speed for the facade geometry.
4. Upload the mission, confirm safety settings, and start only after a final clearance review.
5. Do not use GNSS-dependent automatic modes if GNSS / RTK quality is poor near the structure.

## 5.6 Landing and shutdown

1. Stop the pump and maintain a short hover to depressurize the hose before descent.
2. Fly vertically down into the designated TLZ using a controlled descent profile.
3. Disarm the motors only after the aircraft is firmly on the ground.
4. Power-off sequence: aircraft -> controller -> ground pump.

# 6. Water Quality and Chemical Use

- Water choice and chemical strength affect cleaning quality, surface safety, and spotting risk. Never assume that the highest pressure or strongest chemical is the correct setting.
- For detergent-based cleaning, clean tap water is generally acceptable.
- For rinse-only work where spotting is a concern, RO / DI water is recommended where practical.
- A water-softening agent can be used when local water hardness is high, but dosage must be validated by a test patch.
- Use only mild, facade-compatible detergents. Strong acids, strong alkalis, abrasive media, and unverified chemicals are prohibited in the standard configuration.
- Sensitive surfaces such as coated glass, sealants, joints, and soft metals should use a softer approach: wider nozzle, lower pressure, and larger standoff distance.

> **Before full operation:** Apply the intended cleaning method to the 2 m x 2 m test patch.
> Confirm cleaning effect, runoff behavior, and material compatibility before moving to routine aerial passes.

# 7. Emergencies and Abnormal Events

In hose-fed facade cleaning, abnormal events can escalate because the aircraft is operating near structures while carrying external hose loads. Unless immediate collision risk exists, the emergency priority is:

**Emergency priority:**

1) STOP SPRAY immediately.
2) HOVER FIRST to stabilize the aircraft and reduce hose-induced lateral loading.
3) ASSESS attitude, facade clearance, link quality, and hose condition.
4) RECOVER by controlled descent and landing in the TLZ or the nearest safe area.
5) Use EMERGENCY MOTOR STOP only as a true last resort when a direct threat to persons exists and no controlled alternative remains.

## 7.1 Low battery voltage

- Level 1 warning: finish the current pass, do not start a new pass, and prepare to descend.
- Level 2 / critical warning: stop spray, hover briefly to assess margin, then begin controlled descent immediately.
- Avoid extended high-altitude hover once the critical warning appears.
- Record the battery ID and warning details after landing and inspect the pack before reuse.

## 7.2 Loss of control link or controller application failure

- Expected operating setting for facade cleaning: hover-first on link loss.
- Ground crew must stop pump / pressure immediately and maintain hose slack. Never pull the hose to force aircraft movement.
- If link is restored, reassess surroundings and land using a controlled descent.
- Use RTH only if the return path is demonstrably clear and hose risk has already been reduced to an acceptable level.

## 7.3 GNSS, RTK, or heading degradation near the facade

- Stop spray immediately.
- Maintain stable attitude with conservative inputs and avoid close-to-wall maneuvers.
- If safe, increase separation from the facade slowly.
- Land using the most stable available mode and a controlled descent.

## 7.4 Hose snag, hose whip, or pump overpressure

- Stop spray and stop pump / pressure immediately.
- Hover to reduce tension while ground crew provides slack.

- Use only minimal aircraft movement to clear the snag path. If it cannot be cleared immediately and safely, descend and land.
- Inspect the hose, couplers, and pump relief behavior before any further flight.

## 7.5 Structural damage, abnormal vibration, or impact

- Stop spray.
- Reduce maneuvering and land at the nearest safe area.
- Ground the aircraft after landing. Do not return it to service until it has been inspected and revalidated.

## 7.6 Last-resort motor stop

- Emergency motor stop is not a routine recovery method. Use it only when unavoidable collision or entanglement creates an immediate threat to persons and there is no controlled landing option remaining.

# 8. Maintenance and Care

## 8.1 Daily post-operation cleaning

- Flush the spray system with clean water for 3 to 5 minutes after every job, especially after using detergent.
- After flushing, perform a brief final drain according to the pump manual to expel residual water.
- Wipe radar covers, sensors, and connectors with a clean damp cloth. Residue can trigger false warnings.
- Clean the airframe with low-pressure water or a damp cloth only. Never direct high-pressure jets at motors, vents, avionics areas, or battery connectors.

## 8.2 Battery care

- Store at approximately 60% charge if the battery will not be used for more than 10 days.
- Inspect connectors regularly for oxidation, looseness, or overheating marks.
- If batteries remain in storage for an extended period, follow the pack supplier's refresh / maintenance recommendation before returning them to field use.

## 8.3 Scheduled inspection interval

- Inspect the aircraft thoroughly every 20 operating hours or every 100 flights, whichever comes first.
- Propellers: cracks, chips, looseness, aging, and correct folding behavior.
- Arm locks, sleeves, and structural joints: looseness, fatigue, and damage.
- Hose, couplers, and fittings: abrasion, cuts, kinks, leaks, and secure retention.
- Sensor covers and cables: cleanliness and physical integrity.
- Battery tray and retention hardware: fit and lock integrity.

## 8.4 High-pressure pump maintenance

| Maintenance item | Requirement |
|---|---|
| Dry running | Do not run the pump dry for more than 2 minutes except for the brief approved drain procedure. |
| Inlet filter | Clean daily to prevent debris damage. |
| Oil first change | After the first 50 operating hours. |
| Oil routine change | Every 100 operating hours thereafter. |
| Oil type | SAE 15W/40, unless the supplied pump manual states otherwise. |

| Maintenance item | Requirement |
|---|---|
| Oil level check | Before every use; keep at the red dot / center line of the sight glass or within the pump supplier's marked range. |

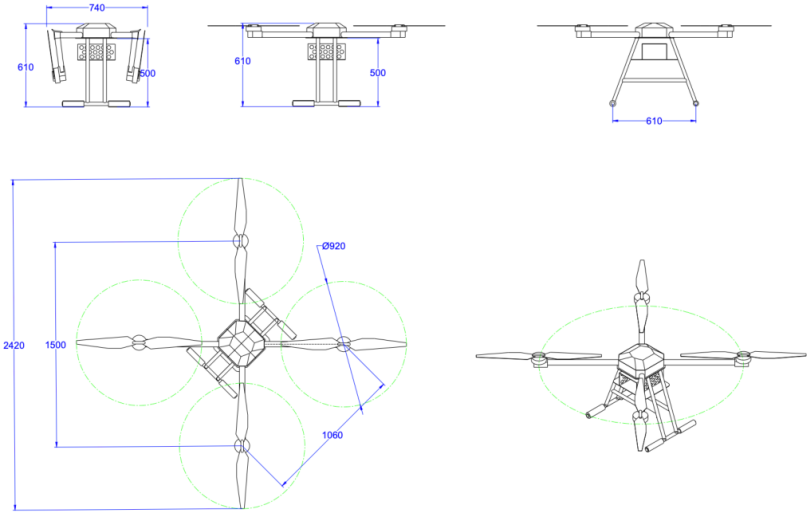
*If the pump was sourced locally rather than supplied by EAUAV, the locally supplied pump manual and nameplate take precedence for electrical input, maintenance, and warranty conditions.*

# 9. Troubleshooting

| Issue | Likely cause | Field-level action |
|---|---|---|
| RC signal lost | Antenna blocked, interference, or excessive separation | Reposition antenna, restore line of sight, keep hose slack, and recover using the validated failsafe plan. |
| RTK disconnected / no FIX | Base-station issue, network issue, or poor sky view | Check RTK power and configuration. Do not rely on RTK-dependent work modes until status is stable. |
| Electronic fence triggered | Height or distance limit reached | Review flight limits in the controller and mission settings before retrying. |
| Motor speed / ESC warning | Motor, ESC, or propeller abnormality | Stop operation, inspect propulsion components, and perform a motor check before reuse. |
| Radar alarm or false obstacle warning | Dirty cover or loose cable | Clean the radar cover, check connectors, and verify correct radar behavior on the ground. |
| Drifting in GPS mode | Magnetic interference or degraded GNSS quality | Increase separation from interference sources, verify RTK / GNSS quality, and calibrate only if required. |
| Pump pressure low | Air in hose, blocked inlet, or partial leak | Check the inlet filter, purge air, inspect couplers, and verify pump inlet supply. |
| Pump motor not starting | Power issue, fuse, RCD, or wrong input voltage | Check the outlet, RCD / earth-leakage protection, fuse, and the pump nameplate. |
| Battery imbalance or unusual voltage sag | Pack aging, imbalance, or damage | Balance charge, inspect the pack, and quarantine the battery if abnormal behavior continues. |

# 10. Technical Specifications

The values below are configuration-controlled and are stated by measurement state or operating condition to avoid mixing transport, flight, and mission masses.




## 10.1 Airframe and performance

| Parameter | Value |
|---|---|
| Folded dimensions | 740 x 740 x 610 mm (arms and propellers folded) |
| Unfolded dimensions | 1060 x 1060 x 610 mm (propellers folded) |
| | 2420 x 2420 x 610 mm (propellers unfolded) |
| Wheelbase / rotor-to-rotor geometry | 1500 mm |
| Airframe mass (without battery) | 16.9 kg |
| Battery pack mass | Approximately 8.38 kg |
| Typical operating mass | 26.18 kg with cleaning payload installed, no hose |
| Maximum takeoff mass (MTOM) | 40 kg |
| IP rating | IP65 |

| Parameter | Value |
|---|---|
| Maximum endurance | Up to 55 min under standard no-hose test conditions |
| Typical facade cleaning endurance | Approximately 45 min |
| Control-link range | 1000 m nominal |
| Maximum horizontal airspeed | <= 13.8 m/s; in cleaning typically <= 11 m/s |
| Operating temperature | -10 to 40 C |
| Operating humidity | 0 to 90% |
| Declared wind resistance | 10 m/s |

## 10.2 Spray system and operating margins

| Parameter | Value |
|---|---|
| Ground pump pressure | 0 - 3000 psi, typically 2000 psi |
| Spray water pressure | 0 - 200 bar, typically 150 bar |
| High-pressure hose length | 100 m nominal |
| Recommended nozzle standoff | 2 to 3 m depending on surface and pressure |
| Typical facade operating height | Normally <= 80 m AGL; 80 to 100 m only with site-specific review |

## 10.3 Propulsion, battery, and charger

| Parameter | Value |
|---|---|
| Motor | T-motor A10L |
| Motor KV | 110 |
| ESC | 14S FOC 200A |
| Propeller | Approved 36-inch folding propeller, 36 x 19 inch class |

| Parameter | Value |
|---|---|
| Battery pack | 14S, 46,000 mAh, 51.8 V nominal, 58.8 V max charge, 138 A max discharge, 2382.8 Wh |
| Charger | 3000 W multi-channel charger, AC 110-240 V input, fast / standard / slow / storage modes |

# 11. Warranty and Service

## 11.1 General terms

Yifei Technology Co., Ltd. (EAUAV) warrants to the original purchaser that the Vertex C80 aircraft and the EAUAV-supplied accessories delivered with it will be free from defects in materials and workmanship under normal use, provided that the equipment is used within the limits and maintenance requirements in this manual.

The standard warranty period for the aircraft system is one (1) year from delivery unless a separate sales contract states otherwise. If proof of purchase is unavailable, the manufacturer may use the factory shipment date as the starting point.

## 11.2 Main component warranty periods

| Component group | Warranty period | Notes |
|---|---|---|
| Flight controller, IMU, GPS / RTK modules | 12 months | EAUAV-supplied components only. |
| G20 remote controller | 12 months | Excludes impact damage and misuse. |
| Obstacle radar / camera | 12 months | If supplied in the order configuration. |
| ESCs | 12 months | Subject to correct maintenance and approved propellers. |
| Motors | 6 months or 500 flight hours | Whichever comes first. |
| High-pressure pump | 12 months | Only for EAUAV-supplied pumps and only when the required maintenance schedule is followed. |
| Battery charger | 12 months | For the supplied charger. |
| Battery pack | 6 months or 200 cycles | Whichever comes first; improper storage or charging voids coverage. |
| Airframe / frame | 12 months | Excludes crash or impact damage. |
| Propellers, hoses, nozzles, filters, seals, pump oil | No warranty | Consumables and wear items. |

## 11.3 Warranty exclusions

- Pilot error, crash damage, fire, misuse, or operation outside the declared limits.

- Unauthorized disassembly, modification, or use of non-approved accessories.
- Failure to perform the required maintenance, including spray-system flushing, battery care, and pump-oil service.
- Normal wear, cosmetic damage, or aging of consumable parts.
- Water ingress beyond the design rating or damage caused by improper cleaning methods.

## 11.4 Warranty service and support

1. Contact EAUAV support or your authorized dealer with proof of purchase, serial number, and a description of the issue.
2. Be prepared to provide flight logs, battery ID, and photos of the affected hardware.
3. If the issue is covered, EAUAV will arrange repair or replacement according to the applicable warranty terms.
4. If the issue is not covered, a repair quotation will be provided before work proceeds.

**Support contact:** support@eauav.com | eauav.com
Manufacturer: Yifei Technology Co., Ltd., Room 306, Building 10, Nanhu Future Science Park, Yuhang, Hangzhou, China 310012

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# Order-Specific Record

This page may be completed during final QC, commissioning, or customer handover. Keep it with the shipped unit.

| Field | Record |
|---|---|
| Aircraft serial number | |
| Remote controller serial number | |
| Battery pack ID / quantity shipped | |
| Charger model / serial number | |
| Pump model / local plug standard | |
| Hose length / hose rating | |
| Delivered configuration | Facade cleaning configuration |
| Firmware / app build | |
| Release date | 2026-02-23 |
| QC / handover signature | |

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# EAUAV

## Vertex C80 Cleaning Drone

Print-ready in-box manual | Facade Cleaning Configuration

Manufacturer: Yifei Technology Co., Ltd.

Website: https://eauav.com

Support: support@eauav.com

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