

FLOWCOPTER FC100 | Hybrid Multirotor Heavy Drone

FC100 - Excels In Heavy Payload Cargo Relay

The Flowcopter FC100 is an innovative petrol hydraulic hybrid multirotor drone engineered for heavy lift applications, utilising proven industrial components to ensure reliability, range, and endurance.

Constructed from tubular steel, it is road transportable and fits within a standard ISO 20-foot container, making it highly practical for deployment in various environments. The aircraft is optimised for cargo relay missions under 50 km, enabling efficient short-range logistics and transport of heavy loads.

Its robust design incorporates a low-cost hydraulic transmission and hydraulic motors tested in harsh maritime conditions, enhancing its suitability for demanding operations, whether they be commercial or Government uses.

The Flowcopter FC100 excels in heavy payload transport for cargo relay, with modular enhancements for BVLOS operations and a full support suite that ensures reliability, safety, and ease of integration into diverse logistical scenarios.



Flowcopter FC100 - 1hr 25kg Flight

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Key Technical Capabilities

The FC100 aircraft is optimised for cargo relay missions under 50 km, enabling efficient short-range logistics and transport of heavy loads in scenarios where traditional methods may be impractical, such as remote or rugged terrains.

Maximum Take-Off Weight (MTOW)	580 kg
Maximum Payload	150 kg
Endurance	Up to 1 hour plus 30 minutes reserve with a 150 kg payload; extends to 4 hours plus 30 minutes reserve with a 50 kg payload
Ancillary Power	Greater than 1 kW, supporting additional onboard systems
Fuel Options	Petrol, net-zero, or synthetic fuels, with a diesel variant available
Maintenance	Built using parts that can be serviced by most aircraft or construction engineers, promoting ease of upkeep and reduced downtime
Ease of Mobile Deployment	All in one, & lightweight 5-minute startup in the vehicle



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Beyond Visual Line of Sight (BVLOS) Enhancements

To support advanced operations, the FC100 can be converted for BVLOS use through:

- ✓ **Installation of cameras for visual monitoring.**
- ✓ **Integration of military-spec long-range mesh radio systems and secondary satellite communications**, including Starlink and burst message sat coms.
- ✓ **Upgrades to navigation systems, including additional compasses, GPS units for moving baselines**, LiDAR, radar altimeters, and extra cameras to facilitate precise landings and cargo delivery.

These features ensure compliance with BVLOS regulatory and safety standards (to be tailored for specific locations), expanding its utility for autonomous or remote-controlled missions beyond direct visual oversight.



This retrofitted unit complies with international shipping regulations, enabling global deployment via road or sea. Equipped with air conditioning, it prioritises human factors, ensuring operators remain comfortable and make sound decisions during extended shifts.

Redundant features, including dual control stations and multiple communication options like LTE, Starlink, and integrated mesh radio systems, provide robust, long-range connectivity, minimising downtime and enhancing safety in remote environments.

Supporting Infrastructure

The Flowcopter FC100's supporting infrastructure offers significant advantages, enhancing operational reliability, efficiency, and versatility for heavy-lift drone missions.

Central to this is the plated ISO container-based Command Centre, designed for full Beyond Visual Line of Sight (BVLOS) operations.



Workshop Container Facilitates On-site Repairs

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Game Changing Emergency Medical Evacuations - CASEVAC



The Flowcopter FC100 is highly suitable for casualty evacuation (CASEVAC) in challenging environments. With a maximum payload of 150 kg, it can transport injured personnel on stretchers or medical equipment over short distances, typically under 50 km, while maintaining endurance of up to 1 hour plus 30 minutes reserve. For lighter loads around 50 kg, flight time extends to 4 hours plus reserve, enabling sustained missions in disaster relief or conflict zones.



Key uses in CASEVAC include rapid extraction from remote or hazardous areas, such as search and rescue logistics, humanitarian aid, and military operations.

Recent UK trials under Project MORRIGHAN demonstrated its effectiveness in logistics resupply and CASEVAC, integrating underslung and hard-coupled cargo systems for safe casualty transport. This capability reduces reliance on manned helicopters, allowing for quicker response times in austere conditions.

Overall, the FC100's capabilities transform CASEVAC by offering reliable, heavy-payload transport with extended range (up to 300 km unloaded), making it a game-changer for emergency medical evacuations.

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Training & Operational Support

- ✓ **Pilot Training:** Standard curriculum including ground school, flight skills (automated and manual), mission planning, heavy lift, swing load handling, payload operations, and FC100-specific type rating; customisable modules available.
- ✓ **Engineer Training:** Covers aircraft servicing, part replacement, troubleshooting, ground equipment maintenance, with hands-on sessions, assessments, and certifications to meet safety standards.
- ✓ **Setup Support:** One week with two staff (technical engineer and pilot) for installation, interconnection, power-up tests, initial flights, and signal integrity checks.
- ✓ **Operational Support:** Two weeks with two pilot-oriented staff for on-site troubleshooting, re-training, and tailoring operations to the client's environment, ensuring a smooth transition.

Documentation

- ✓ **Tailored Materials:** Facilitate flight authorisation and compliance in the client's country.
- ✓ **SORA-style Flight Operations Manual:** Covering procedures, emergency protocols, and risk mitigation.
- ✓ **Maintenance Guides:** Checklists, troubleshooting, part replacement, and system integration protocols.
- ✓ **Training Materials:** For pilots and engineers, with a structured revision process for updates

Summary

In summary, the Flowcopter FC100 excels in heavy payload transport for cargo relay, with modular enhancements for BVLOS operations and a full support suite that ensures reliability, safety, and ease of integration into diverse logistical scenarios.