

GOVERNMENT OF INDIA
DIRECTORATE GENERAL OF CIVIL AVIATION
DRONE DIRECTORATE

TYPE CERTIFICATE

No.: T09240000029

This certificate, issued to ***M/s Ubifly Technologies Private Limited*** certifies that the Unmanned Aircraft System

"Vihaa"

its technical specifications and operating limitations for which are contained in Datasheet No ***T09240000029*** *dated* ***26th September, 2024*** *is of proper design, material, specification, construction and performance for safe operation based on the recommendation of* ***TQ Cert Services Private Limited*** *as required by the Certification Scheme for Unmanned Aircraft Systems notified by the Ministry of Civil Aviation vide S.O. 347(E) dated the 26th of January, 2022.*

This Type Certificate is issued under the provision of Rule 8 and Rule 9 (3) of the Drone Rules 2021.

This certificate shall remain valid until suspended or cancelled.

Date: 26th September, 2024 **Director General of Civil Aviation**

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Technical Specifications Of M/S Ubifly Technologies Private Limited's UAS Model Vihaa

Manufacturer Name	Ubifly Technologies Private Limited
Address	First Floor, No.1FA,, Kanagam Road, Taramani, , Chennai, Tamil Nadu, , Chennai , TAMIL NADU , 600113 , INDIA
UAS Model Name	Vihaa
Description	Vihaa UAS is a Medium class rotorcraft (Hexacopter) configuration with maximum allowed capacity of 10 liters tank for agrochemical spraying.
UAS Details	
Category/Sub-Category	rotorcraft (RPAS)
Class	MEDIUM
Maximum all-up-weight(including payload) in kg	30.0
Overall dimensions (l x b x h) in mm	1870.0 x 1870.0 x 610.0
Payload Details	
Details of each Compatible Payload (including Manufacturer Name, Payload Specifications with Model No., Intended Applications)	Sprayer tank with maximum allowed capacity of 10 liters for spraying mode.
Variable Load/Consumables (Like fluid etc., if any)	Pesticides, Fertilizers, Plant nutrients (Agrochemicals)
Power plant Details	
Engine details (Manufacturer details, Model No.)	NA , NA
Engine/Motor	Hobbywing X6 Plus BLDC Motor
Power Rating	2398 watts
No. of Engines/ Motors	6
Total fuel capacity (kg)/ Battery capacity (mAh)	25200.0 mAh
Propeller details (Diameter, Max RPM)	Diameter - 24 inches , Pitch - 8 , Max RPM - 5493
Equipment Details	
GNSS	Available
Autonomous Flight Termination System or Return Home (RH)	Available||Available
Flashing anti-collision strobe lights	Not Available
RFID and GSM SIM Card	RFID- Not Available||GSM SIM Card- Not Available
Flight control Module	Available

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SSR transponder (Mode ‘C’ or ‘S’) or ADS-B OUT equipment (if applicable)	Not Available||Not Available
Barometric equipment (with capability for remote sub-scale setting) (if applicable)	Not Available
Geo-fencing Capability	Available
Detect and Avoid Capability (if applicable)	Available
Remote Pilot Station	
Ground Control Station Model No.	Agri Assistant
GCS App. Version	Agri Assistant Version V1.5.1.7.2
C2 Link	
Equipment details	Skydroid H12.
Frequency Band	2400 MHz - 2480 MHz
ETA issued by WPC Wing, DoT	Details- Details ETA-SD-20201108304 dated 12 June 2021.
Performance Details	
Maximum Endurance (hr/m)	10.43 minutes
Maximum Range (in km)	1.5 Km
Maximum Speed (in m/s)	10.0 m/sec
Maximum Height attainable/ Maximum Ceiling Height (in ft)	82.0 ft
Operating Altitude (in ft)	82.0 ft
Operational Envelope	VLOS | Day
Engine limits (Maximum RPM) / Max. Battery Temperature (in deg C)	60.0 deg C
Propeller limits (Maximum)	Max RPM 5493
Documents / Manuals	
Manufacturer’s Operating Manual (as applicable)	Flight Manual Ver. 1.0 Rev. 13 dated 9th September, 2024
Manufacturer’s Maintenance guidelines (as applicable)	Maintenance Manual Ver. 1.0 Rev. 8 dated 9th September, 2024
Maintenance Inspection Schedule/Overhaul interval	Maintenance Manual Ver. 1.0 Rev. 8 dated 9th September, 2024
Maintenance Log Book	Maintenance Log Ver. 1.0 Rev. 2 dated 12th July, 2024
Flight Log Book	Operational Log Book Ver. 1.0 Rev. 1 dated 12th July, 2024
User Guide/ Self Explanatory Information Booklet for end users	Flight Manual Ver. 1.0 Rev. 13 dated 9th September, 2024

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Intended Applications	
Intended Applications	Agrochemical spraying for agricultural purposes

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Limitations & Conditions to Ubifly Technologies Private Limited for manufacturing of UAS Model Vihaa

1. **M/ s. Ubifly Technologies Private Limited, Chennai** henceforth referred as manufacturer in this documents shall comply with the applicable Rules, Regulations & Requirements issued from time to time. The manufacturer shall comply with mandatory safety features (if any) as and when mandated by Ministry of Civil Aviation/DGCA.

2. Design documents and manuals submitted shall be frozen and controlled. Any changes effecting to the Type Certificate/ Data sheet , the manufacturer shall approach through Authorised Testing Entity for up-dation of the Type Certificate/Data Sheet issued there under.

3. Manufacturer shall be responsible for all UAS Model **"VIHAA"** produced by them conforms to this type certificate & data sheet and shall issue a certificate of conformity for each UAS produced.

4. Manufacturer shall ensure that their UAS is not tampered at the time of sale and also at the time of maintenance. Manufacturer shall monitor the same and notified to DGCA as and when required.

5. Manufacturer shall maintain list of their vendors, bill of materials, inventory of UAS including buyer details with configurations sold to them etc. and access to the same shall be provided to DGCA during surveillance and as & when requested for. It shall be the responsibility of the manufacturer to ensure that their UAS are sold to bonafide customers.

6. **Manufacturer shall ensure that operations is restricted to Visual Line of Sight & for day operations only and within the operations/ performance limitations specified in the frozen manuals.**

7. Manufacturer shall affix fireproof plate for indicating UIN, Manufacturer's name, model no. and serial no. in all the UAS manufactured before it is transferred to the buyer.

8. Manufacturer shall intimate DGCA about any violations, defects, faults, malfunctions, incidents and accidents involving the subject UAS model quarterly and as when sought for.

9. **UAS Model "VIHAA" can be used for intended applications only. Manufacturer shall ensure that the drone is flown away (30m) from uninvolved people and not flown over the crowd/ uninvolved people.**

10. The manufacturer shall be responsible for ensuring applicable conditions and educate end users accordingly.

11. Manufacturer shall be responsible for rights related to design and development of the UAS model **"VIHAA"** and DGCA shall not be party to any dispute arising due to proprietary right issues.

12. Manufacturer shall abide by the IT Act 2000 and any subsequent revision.

13. In case of violation of any of the above mentioned conditions and/ or operating requirements & restrictions specified in this Type Certificate, penal action shall be initiated in line with the Drone Rules, 2021 and other Rules/ Regulations issued from time to time.

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