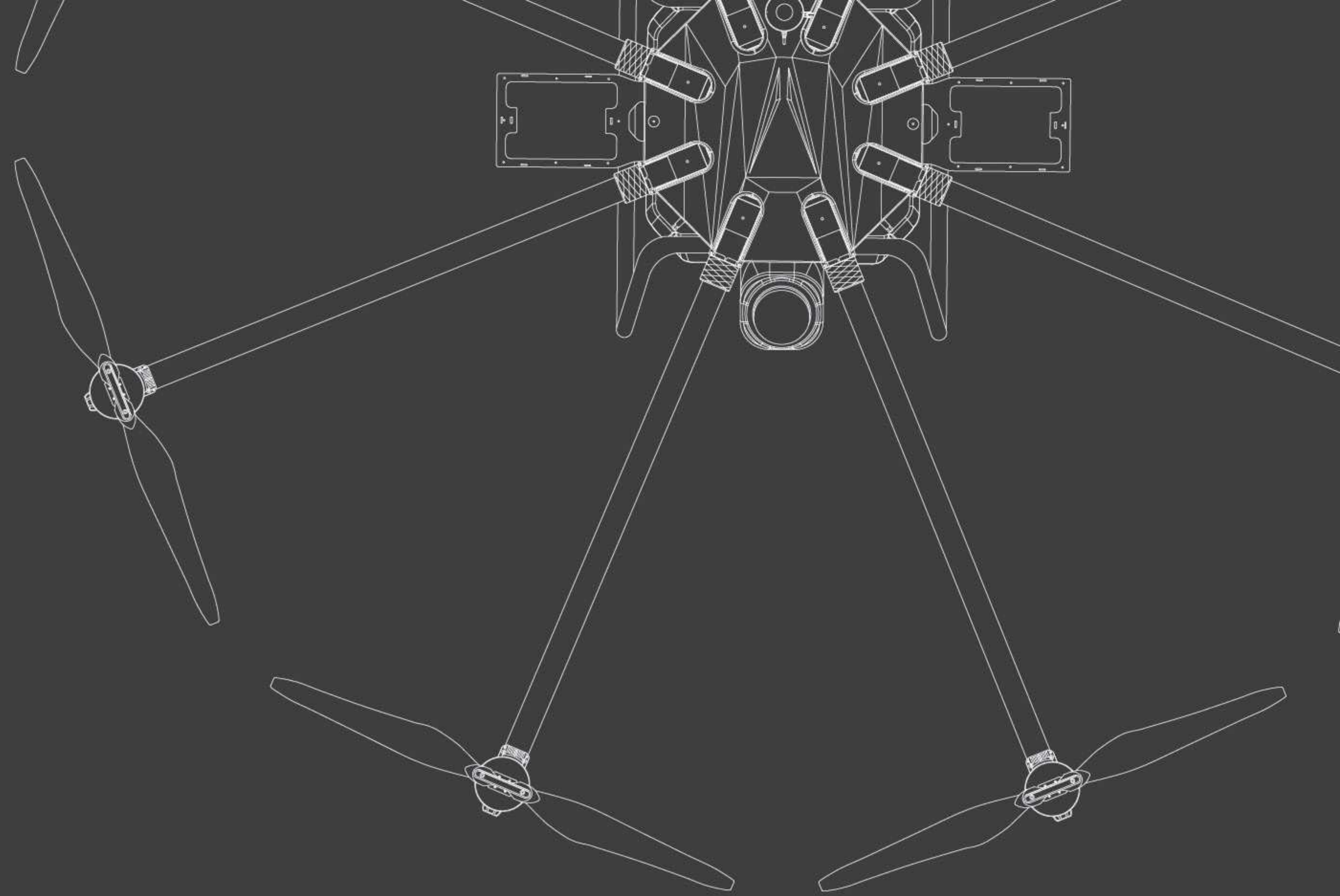


BROUAV



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About BROUAV

Qingdao Zhongfei Intelligent Technology Co.,Ltd was involved in the drone industry since 2010, specializes in the development, design, and production of Unmanned Aircraft Vehicle. We have professional R&D technical team, complete and scientific quality management and production system, good after-sales service system with more than ten years of industry experience.

We operate through five business segments, provide solutions to the UAV industry application, UAV plant protection services, UAV automation control system development, UAV technical maintenance support and UAV education.

We offer products in various categories such as Plant protection drone, Security Force drone, Firefighting drone, Surveillance drone, Rescue drone, Patrol drone, Cargo drone and Military drone. We will never stop to commit to the research and development of new products according to the different needs of customers. We are the only manufacturer who can provide 52L and 72L big payload agricultural drones in the market now.

Our operations and services cover many cities in different provinces of China and different countries around the world such as US, Mexico, Peru, Malaysia, Philippines, Ukraine, Turkey, Australia and so on.





Foreign Market



India



Brazil



Bangladesh



Ukraine



Australia



Peru



Mexico



Korea



History

2010

V1 flight control research and development



2012

20L hybrid agriculture drone finished test period and entered into the market.



2011 10L plant protection UAS design and production



2013

V2 flight controller was widely used in plant protection drone





2014 As per foreign market, 16L U series drone pluggable tank design



2016 25L U series quadrotor drones was popularized in foreign countries.

2015 22L D series quadrotor drone started to be tested in Xinjiang



2017 According to Xinjiang market's requirement, 30L D series heavy capacity drone was developed



2018

Integrated with RTK system, centimeter level working accuracy was achieved.



2020

Keeping leading of the field, 72L drone was developed by BROUAV R&D team.



2019 BROUAV was the first to launch 52L D series drone into market .





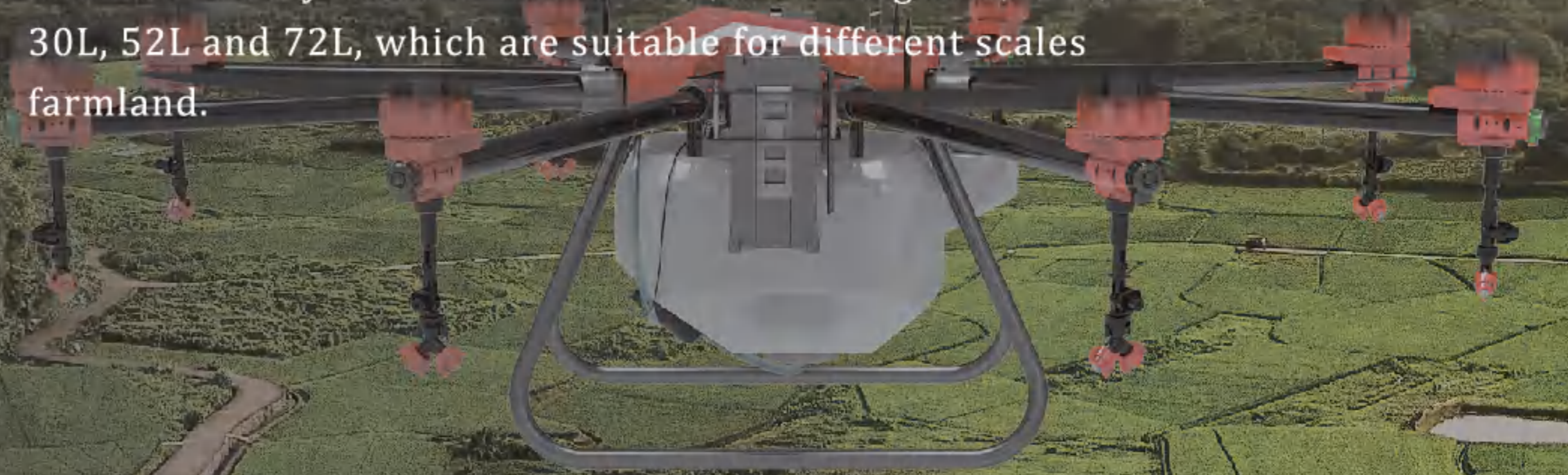
ADVANTAGES

R&D

Since the establishment from 2010, BROUAV has been devoting to the research and development of multi-rotor UAV flight control for agricultural plant protection, and has realized the fully autonomous and safe operation in agricultural applications. A strong technical research and development team continues to innovate in structural design, leading the development trend of the industry.

Characteristic

After 10 years of precipitation and market testing, BROUAV has a full range of plant protection drones with different load types that are widely used in the market, including 16L, 22L, 25L, 30L, 52L and 72L, which are suitable for different scales farmland.





U Series Plant Protection Drone

U16L-4 Plant Protection Drone

Compact structure&pluggable tank, autonomous operation

U16L-4 is designed with pluggable arm and pesticide tank. Portable and efficiency. Autonomous, GPS and manual operation fullfill all operation requirement.

U25L-4 Plant Protection Drone

Revolution of U16,higher capacity&stronger working capability

U25L-4 Plant Protection Drone, inherited U16 all functions and enhanced the working capability. Sense of science and technology vision impact ,larger capacity intelligent lithium battery. More stable,long endurance and great topographic adaptability.





D Series Plant Protection Drone

D22L-4 Plant Protection Drone

Foldable Arm, Fixed Tank, Compact Structure

Different design with U series, fixed tank under the UAS simplified structure, modular design, folding arms 4-rotors design with cleaning wind field, enhancing the penetration power.



D30L-8 Plant Protection Drone

High Capacity and Efficiency, Upward Folding Arm

High Capacity and Efficiency, Upward Folding Arm
Improvement of D22, higher performance powertrain with 8-rotors. Strong flight stability, extended wheelbase, megaflow peristaltic pump, higher spraying efficiency, real time regulating flowrate according to flight speed.





D Series Plant Protection Drone

D52L-8 Plant Protection Drone

Leading of world plant protection UAS, Redefine

Agriculture drone with supramaximal tank, advanced structure design, super powertrain, striking wingspan.

Reinforced airframe, carbon fiber arm, aviation aluminum hardware enable D52 to adapt to various terrain with full payload. Independent dismountable 60L granule spreading system for seeding and fertilizing.



D72L-8 Plant Protection Drone

King of plant protection UAS with unprecedentedly capacity

Created a miracle in single mission of working efficiency.

Conversion between 16 nozzles and 32 nozzles, adapting to various farmland, such as rice and orchard. Powerful airflow drive propel atomized droplet to penetrate crop from top to the bottom.





BROUAV V2 Flight Control System

Great Foresight, Endless Progress

- V2 is stable and efficiency flight control system and specially designed for multi-rotor agriculture UAS.
- Comprehensive flight monitoring and warning function
- In the case of calculation failure, the system can be recombined to ensure the safe operation of the system.



- V2 provide highly integrated ground station software, which has flight data monitoring, instrument panel status display, abnormal status alarm, flight remote control, electronic map, route planning and other functions;
- High measurement accuracy, which reduces the probability of attitude divergence, thereby ensuring the reliability and safety of the system's work;
- Provides powerful route planning capabilities and flexible mission control functions. Users can easily formulate diversified flight missions by using the ground station software;
- V2 system integrates high-precision inertial and satellite navigation sensors, the sensor data is preprocessed, drift compensation and data fusion in the full temperature range, obtain real-time flight attitude, position coordinates, working status and other parameters to complete the high-precision attitude and route control of the multi-rotor UAS platform.
- V2 system integrates dual redundancy CPU and sensors, and each redundancy can be automatically detected and switched autonomously, effectively ensuring flight safety.



Product Features



Terrain Follow Radar

- Launch MMW(millimeter wave) and detect various terrains accurately, up to 30 metres difference in altitude, adjusting the relative altitude autonomously suitable for various terrains including rugged terrain.
- Omnibearing 40° terrain sensing; terrain deviation $\leq 10\text{cm}$.
- Terrain follow radar is specially designed to be water proof, suitable harsh weather and surroundings.



High Precision GPS and GNSS RTK Module

- As the standard aviation system, GPS can meet most of the customers working demand. RTK module is an option for special crop or environment with centimeter level accuracy. RTK station module ensure the accurate working whenever and wherever possible.
- Using high dynamic receiver board card, even at a high speed of 100km/hr, it can achieve centimeter-level high-precision differential positioning results.



Obstacle Avoidance Radar

Front and back obstacle avoidance radar detect the surroundings in both side to identify obstacle (radius $\geq 5\text{cm}$) 20 metres away and detour around it automatically.



Industrial Grade Protection Capability

- IP67 rating for main core modules.
- All electric modules are water resistance, dustproof and shockproof, make it adaptable to harsher working environment.



Ultrastrong Structure

The main structure is made of thickened carbon fiber, ensure the light weight and high strength. Aviation aluminum landing gear passed 500Kg tolerance test, which reduce the damage after crash landing greatly.



Intelligent Adjustable High Pressure Spraying System

Durable, cost effective and wide range spraying

- High pressure nozzles strong penetrating power, long endurance, and cost effective
- Adjustable droplet size 200~500 μ m, better absorbed by various crops
- Dual water pump design integrated intelligent flowmeter system, flow rate 3~8L/min
- Variable-Rate Spray Control, Real-time regulate flowrate according to flight speed.
- Liquid level indicator senses the tank volume real time, ground station display sync.



	U16L-4	D22L-4	U25L-4	D30L-8	D52L-8	D72L-8
Maximum Capacity	16L	22L	25L	30L	52L	72L
Spray Width	4-8 meters	4-8 meters	4-8 meters	6-10 meters	6-12 meters	8-15 meters
Operating Efficiency	6-8ha/hr	8-10 ha/hr	10-12 ha/hr	14-18 ha/hr	20-22 ha/hr	28-30 ha/hr



Brouav Intelligent Sowing System



BROUAV Spreader adopts high-speed jet ducted air supply and drum metering method, which can quantify seeds, fertilizers, feed and other particles to the target area at high speed and evenly so as to realize the harmless and uniform spread of materials and seeds. Support 0.5mm-15mm particle spreading, spreading width up to 10m, maximum spreading speed up to 5KG/Min.





Specifications

		U16L-4	U25L-4	D22L-4	D30L-8	D52L-8	D72L-8
Airframe	Airframe Dimensions (incl. propellers) (mm)	1990mm*1965mm*500mm	2150mm*2100mm*620mm	1990mm*1900mm*660mm	3090mm*3090mm*830mm	3550mm*3550mm*850mm	3920mm*3920mm*850mm
	Transport Dimensions (mm)	1300mm*1300mm*700mm	1300mm*1300mm*700mm	900mm*750mm*850mm	1930mm*1020mm*940mm	1950mm*1050mm*940mm	2100mm*1100mm*960mm
	Max Takeoff Weight (kg)	38	51	46	77	123	147
	Water-resistant	.	.	.	.	.	.
Flight Control System	Flight Controller	Industrial Version GPS and Controller	Industrial Version GPS and Controller	Industrial Version GPS and Controller	Industrial Version GPS and Controller	Industrial Version GPS and Controller	Industrial Version GPS and Controller
	Night Operation	.	.	.	.	.	.
	APAS Obstacle Avoidance	-	.	-	.	.	.
	MMW Radar Terrain Tracing	.	.	.	.	.	.
	Terrain Tracing Accuracy (m)	≤0.1	≤0.1	≤0.1	≤0.1	≤0.1	≤0.1
Spraying System	Navigation Method	GPS	GPS	GPS	GPS	GPS	GPS
	Maximum Capacity (kg)	16	25	22	30	52	72
	Spray Width (m)	4-8	4-8	4-8	6-10	6-12	8-15
	Efficiency (ha/mission)	1.1	1.5	1.7	2	3.5	4.8
	Nozzle Type	Imported high pressure anti-floating atomizing nozzle	Imported high pressure anti-floating atomizing nozzle	Imported high pressure anti-floating atomizing nozzle	Imported high pressure anti-floating atomizing nozzle	Imported high pressure anti-floating atomizing nozzle	Imported high pressure anti-floating atomizing nozzle
	Droplet Size (μm)	200-500μm	200-500μm	200-500μm	200-500μm	200-500μm	200-500μm
	Breakpoint Resume	.	.	.	.	.	.
	Instant Flow-start/stop	.	.	.	.	.	.
	Operating Efficiency (ha/hr)	8	12	10	18	23	30
	Automatic Liquid Refiller	.	.	.	.	.	.
Power System	Battery Capacity (mAh)	14S 20000*1	14S 20000*1	14S 20000*1	14S 20000*2	14S 30000*2	14S 42000*2
	Battery Warranty (Cycle)	1 Year or 1000 cycles	1 Year or 1000 cycles	1 Year or 1000 cycles	1 Year or 1000 cycles	1 Year or 1000 cycles	1 Year or 1000 cycles
	Battery Charger	.	.	.	.	.	.
Remote Control System	Integrated Intelligent Remote Controller	.	.	.	.	.	.
	Charger	.	.	.	.	.	.
	FPV	.	.	.	.	.	.



Smart Power System

Multiple Channel Charging, Intelligent Protection

Brouav power system for U series and D series plant protection drone adopts li-po intelligent batteries. BROUAV intelligent li-po industrial battery charger, 2-channel compatible with U series, D22 and D30. 4-channel intelligent charger compatible with D52 and D72.



14s 20000mAh for U16,D22,U25,D30



14s 30000mAh for D52



14s 42000mAh for D72



Anti-collision, shockproof and anti-penetration

Charging and discharging over 1000 times

USB, CAN and Wifi three methods check the real-time data

Software updated by USB

Over temperature protection

Automatically balanced internally, keep the battery voltage difference within 20mV.

BROUAV intelligent li-po industrial battery charger, Over-current, over-charging, over-temperature, safety cut-off, fast-equilibrium and status indicator function.



Ground Station System

- BROUAV integrated intelligent remote controller-H12, High resolution and ultra bright 5.5 inch screen, visible even under strong sunlight.
- Adopts newest Qualcomm Snapdragon 625 processor, equipped with an Android embedded system and advanced SDR technology and super protocol stack, making the image clearer, lower the latency, longer distance, stronger anti-infection.
- Internal rechargeable battery, long lasting, support charging and working simultaneously.
- Ultra long distance transmission, control radius over 5Km.
- IP67 protection capability, dust proof, anti-splash.





BROUAV B40 Mapping UAV

- BROUAV B40 mapping and point setting UAV is purposely designed for working with plant protection drone.
- Equipped with professional agriculture flight control system, B40 makes autonomous flight operation to be a new level.
- With the use of smart lithium battery, the average flight time of B40 is 40 minutes which mapping and point setting 150 hectares per flight mission.
- With adjustable single axis gimbal, B40 can collect topographic, landform, high definition geographical, multispectral data.
- Substitute for hand held mapping device, B40 can route the farmland efficiently. Sharing H12 remote controller with plant protection uav, B40 realize the data sharing with BROUAV plant protection uav.

Applications:

Farmland navigation and point setting

Multifunctional Thrower

Surveying and patrolling

Powerline inspection



BROUAV

The logo consists of the word "BROUAV" in a white, bold, sans-serif font. Overlaid on the letters "R" and "O" is a stylized orange "X" shape. The four corners of the "X" are marked with white circular nodes, each containing a small orange dot. The "X" is centered over the "R" and "O", with its vertical bars extending slightly above and below the height of the letters.