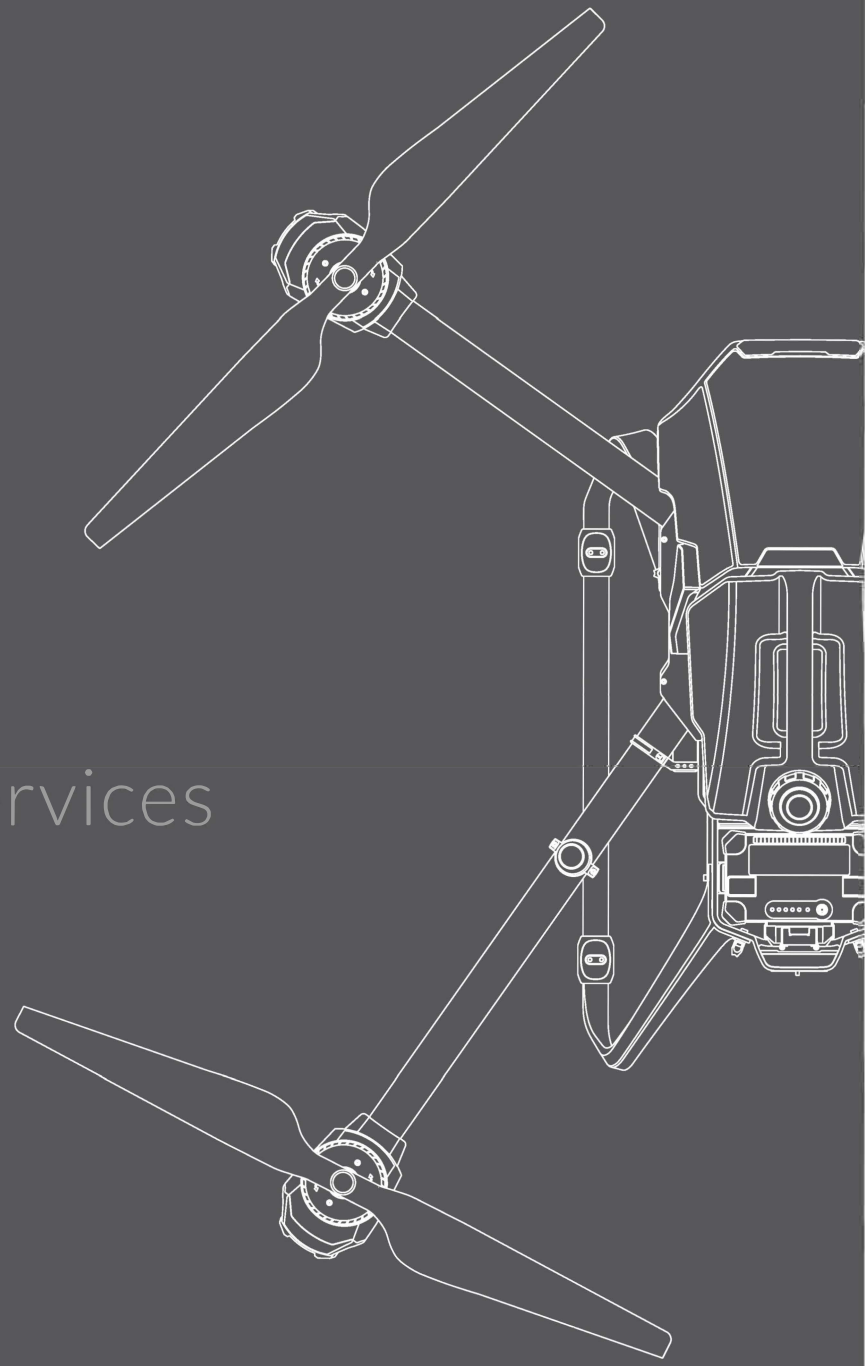
XAG

MAKE AGRICULTURE SMARTER

Specialised Agricultural Services

we grow profit



P SERIES PLANT PROTECTION UAS

Designed for Precision Agriculture

INTERNATIONAL DESIGN EXCELLENCE AWARDS '16
FINALIST

reddot design award
winner 2018

P Series Plant Protection UAS

P10 Plant Protection UAS

Autonomous & Manual operation, Small but efficient

P10, the light & portable version of P Series Plant Protection UAS, supports autonomous operation or manual remote controller, fulfilling all operation requirements.

P20 Plant Protection UAS

A Legend, Enhanced Capabilities

P20 Plant Protection UAS, inherited the strong capabilities from its previous generation, optimized and further enhanced based on the 1 million hectares of commercial agricultural operations over 50 types of crop. P20 is an autonomous Plant Protection UAS which provides precision spraying while being more stable, longer endurance, and better topographic adaptability.

P30 Plant Protection UAS

The Future Starts Today

As the perfect fusion of performance and design, P30 Plant Protection UAS is equipped with the new SUPERX3 RTK Flight Control System and XAI agricultural intelligence engine. P30 redefines the technological boundaries of the UAV industry with advanced industrial designs, dynamic propulsion system and complete water resistant performance.

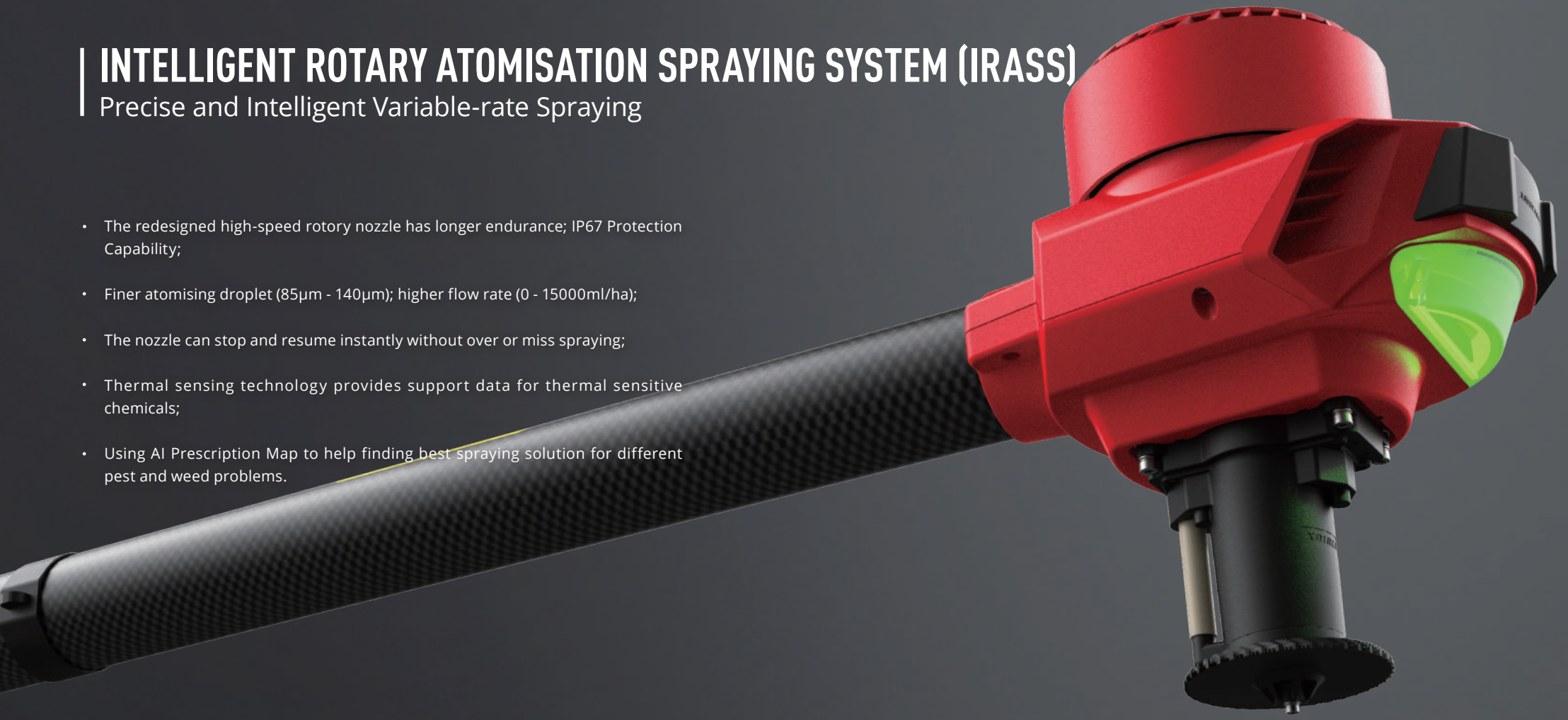
Tech Specs

		P10		P20		P30
		GPS	RTK	GPS	RTK	
Airframe	Airframe Dimensions (incl. propellers) (mm)	1460×1410×383		1831×1831×472		1945×1945×440
	Transport Dimensions (mm)	1027×946×345		1190×1181×426		1252×1252×390
	Max Takeoff Weight (kg)	20		25		33
	Water-resistant	—		—		•
Flight Control System	Flight Controller	SUPERX 2 GPS PRO	SUPERX 2 RTK PRO	SUPERX 2 GPS PRO	SUPERX 2 RTK PRO	SUPERX 3 RTK
	Night Operation	—	•	—	•	•
	APAS Obstacle Avoidance	•		•		•
	MMW Radar Terrain Tracing	•		•		•
	Terrain Tracing Accuracy (m)	≤0.1		≤0.1		≤0.1
	Navigation Method	GPS	GNSS RTK	GPS	GNSS RTK	GNSS RTK
Spraying System	Maximum Capacity (kg)	6		10		15
	Spray Width (m)	2.5		3		3.5
	Efficiency (ha/mission)	0.7		1.3		2
	Nozzle Type	Rotary Atomisation		Rotary Atomisation		Rotary Atomisation
	Droplet Size (μm)	85-140		85-140		85-140
	Breakpoint Resume	•		•		•
	Instant Flow-start/stop	•		•		•
	AI Prescription Map	—	•	—	•	•
	Operating Efficiency (ha/hr)	2.6		4		5.3
	Automatic Liquid Refiller	•		•		•
Power System	Battery Capacity (Wh)	440		620		800
	Battery Lifespan (Cycle)	≥300		≥300		≥300
	Power Hub	•		•		•
	Power Bank	•		•		•
Remote Control System	Power Transfer	•		•		•
	ARC1 Smart Manual Remote Controller	•		•		•
	A2 PilotPhone Autonomous Controller	•		•		•

INTELLIGENT ROTARY ATOMISATION SPRAYING SYSTEM (IRASS)

Precise and Intelligent Variable-rate Spraying

- The redesigned high-speed rotory nozzle has longer endurance; IP67 Protection Capability;
- Finer atomising droplet (85μm - 140μm); higher flow rate (0 - 15000ml/ha);
- The nozzle can stop and resume instantly without over or miss spraying;
- Thermal sensing technology provides support data for thermal sensitive chemicals;
- Using AI Prescription Map to help finding best spraying solution for different pest and weed problems.



	P10	P20	P30
Maximum Capacity	6 kg	10 kg	15 kg
Spray Width	2.5 m	3 m	3.5 m
Operating Efficiency	0.7 ha/mission	1.3 ha/mission	2 ha/mission
	2.6 ha/hr	4 ha/hr	5.3 ha/hr

IP67 Protection Capability

Instant Flow-start/stop

Thermal Sensing

AI Prescription Map

AUTOMATIC LIQUID REFILL SYSTEM (ALRS)

Precise, Safe, Eco-friendly

- The 2nd Gen. Automatic Liquid Refiller, it separates the operator from the chemicals and assist in chemical refilling, reducing the chance and risk of chemical exposure.
- The Smart Liquid Tank can automatically sense the chemical density, temperature and volume; accurate and reliable.
- Based on the operation flight plan, chemical refilling is calculated and adjusted automatically, reducing chemical wastage, and minimising pollution.
- During flight operations, container information is updated continuously. Allowing UAS to adjust the chemical output during flight operations,

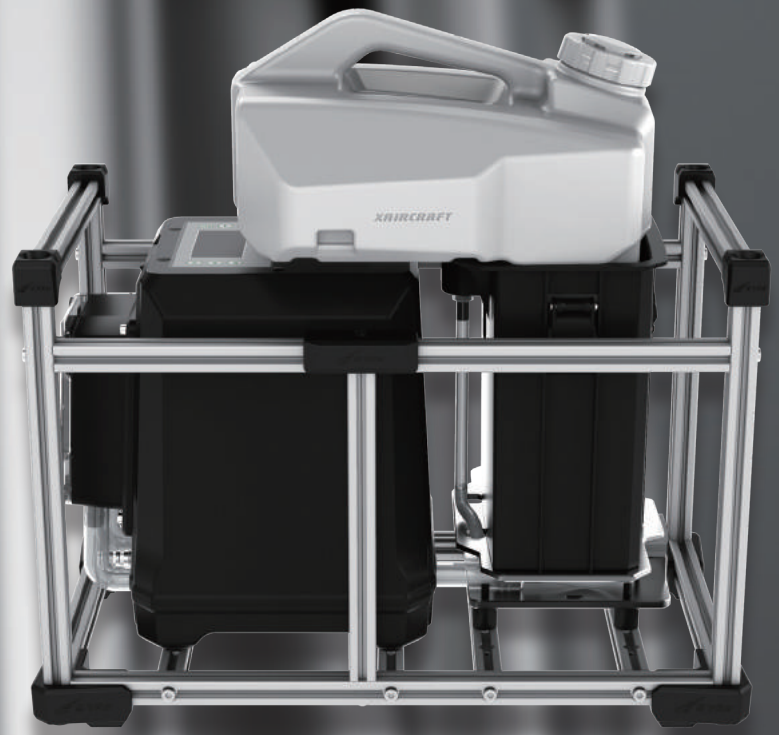
Eco-friendly

Distant Operating from Chemicals

Density Sensing

Capacity Sensing

Thermal Sensing



POWER SYSTEM

Subvert the TRADITIONAL, Multiple Charging Solutions

The XAG™ Power System for P Series Plant Protection UAS includes Li-Po Smart Batteries (440Wh, 660Wh, 710Wh, 800Wh) and different charging solutions, battery cost reduction up to 70%; multiple in-field charging methods further reduce the cost of large-scale operations.

Aluminum & Carbon Fibre Shell; Shockproof & Anti-penetration

XAG™ BMS, Battery Lifespan ≥300 cycle

Operation Temperature from 10°C to 55°C

Auto-preheat if environment temperature ⩽ 5°C

B12440 B12620 B12800

Power Hub

Simultaneously charging for four batteries. Fanless conductive cooling designed for harsh outdoor environment.

Power Bank

Cost effective, simultaneously charging for 2 batteries. Replacing in-field electric generator, reducing operation cost.

Power Transfer

Merging batteries' residual power, efficient resources allocation. Extend power source, light & portable.

I SUPERX2 RTK PRO FLIGHT CONTROL SYSTEM

APAS Obstacle Avoidance and Fault Prediction

- APAS (Advanced Pilot Automatic System) Obstacle Avoidance System enables UAS to identify obstacle (radium ≥5cm) 20 metres away and detour around it automatically.
- Near-infrared illumination technology makes obstacle avoidance possible even at night.
- With ultrastrong data link, the flight log can be transmitted to cloud server in real-time. XAG™ AI will then analyse the potential faults, alerting and notifying users in advance.

Radar Terrain Tracing and Optic Positioning

- Millimeter Wave Radar can accurately detect the terrain up to 30 metr es difference in altitude, it is suitable for various terrains including rugged terrain.
- Omnibearing 40° terrain sensing;
  terrain deviation ≤ 10cm.
- When GNSS RTK or GPS is interfered, optic positioning module will be activated automatically to assist the localisation of UAS to ensure reliable operation during day and night.

Cloud RTK, Full Access to Carrier Networks

- Cloud RTK Flight Mode, the new system allows precision agricultural operations without setting up the traditional portable RTK base station.
- It implements full access communication module to ensure stable network communications worldwide.

I AGRICULTURAL REMOTE CONTROL SYSTEM

A2 PilotPhone Autonomous Controller

- Customised for XAG UAS operations, easy to use, long lasting battery and IP67 Protection Capability;
- Integrated with operation Apps, stable & reliable;
- One A2 PilotPhone can control up to three UASs.

ARC1 Manual Remote Controller

- Purpose built for Plant Protection UAS, ARC1 is light and portable, control radius up to 1km; voice broadcasting, dust-proof and anti-splash.
- Supports multiple manual spray mode (Intelligent A to B Mode and Pixelation Mode), ensuring efficient operation without over or miss spraying.

PRECISION MAPPING AND ANALYSIS

RTK GPS MAPPING Provides the foundation for Precision Spraying and variable rate application. Prescription maps can be uploaded directly to the P Series Crop Spraying Drones allowing farmers to spray only where they need to.

Specialised Agricultural Services provides a detailed mapping and precision farming integration service including Crop / Orchard Analysis reports, Tree counts and crop health reports that link directly to your spraying drone.

XAG™ FLIGHT INFORMATION SYSTEM (XFIS)

Easy to monitor, Convenient to manage

- Visualised Management Platform, allows easy access and management by operators and authorities to monitor.
- It supports function such as geofencing, no-fly-zone, and remote UAS locking, enhancing airspace safety and satirising the needs of national security.
- Real-time monitoring of operation team, progress, area location, area size and equipment distribution, comprehensive information about the equipment and its maintenance records.

Flight Monitoring

Geofencing

Operation Stats

Traceable Management

I XAG™ INTERNET OF THINGS (XIOT®)

As a world leading farmland IoT R&D institution, XIoT® was established in 2016. Based on its years of in-field operation, the experiences and data collected were analysed to form a unique farmland database of China, facilitating the development of smart agriculture.

XIoT® has been exploring in the areas of sensors, communications, cloud computing, data mining, etc., helps farmers to optimise their production methods through the IoT equipment locates across the country, providing them useful information of crops, weather, soil, etc.

Specialised Agricultural Services

we grow profit

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