

智造无限可能  
Intelligence makes it possible



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# AG18

## 油电混合，高效作业

Hybrid system drone, Efficient operation



AG18植保无人机电油混合系统  
AG18 plant protection UAV hybrid system

P<sub>03-04</sub>

AG18植保无人机水冷系统  
AG18 plant protection UAV water cooling system

P<sub>05-06</sub>

AG18植保无人机结构设计  
Structural design of AG18 plant protection UAV

P<sub>07-08</sub>

AG18植保无人机喷洒系统  
AG18 plant protection UAV sprinkling system

P<sub>09-10</sub>

AG18植保无人机强悍性能  
AG18 plant protection UAV strong performance

P<sub>11-12</sub>

AG18植保无人机专用遥控器+APP  
AG18 plant protection UAV special remote control +APP

P<sub>13-14</sub>

AG18植保无人机规划避障  
AG18 plant protection UAV planning obstacle avoidance

P<sub>15-16</sub>

AG18植保无人机防地形模块、RTK模块、参数  
AG18 plant protection UAV anti-terrain module, RTK module, parameters

P<sub>17-18</sub>

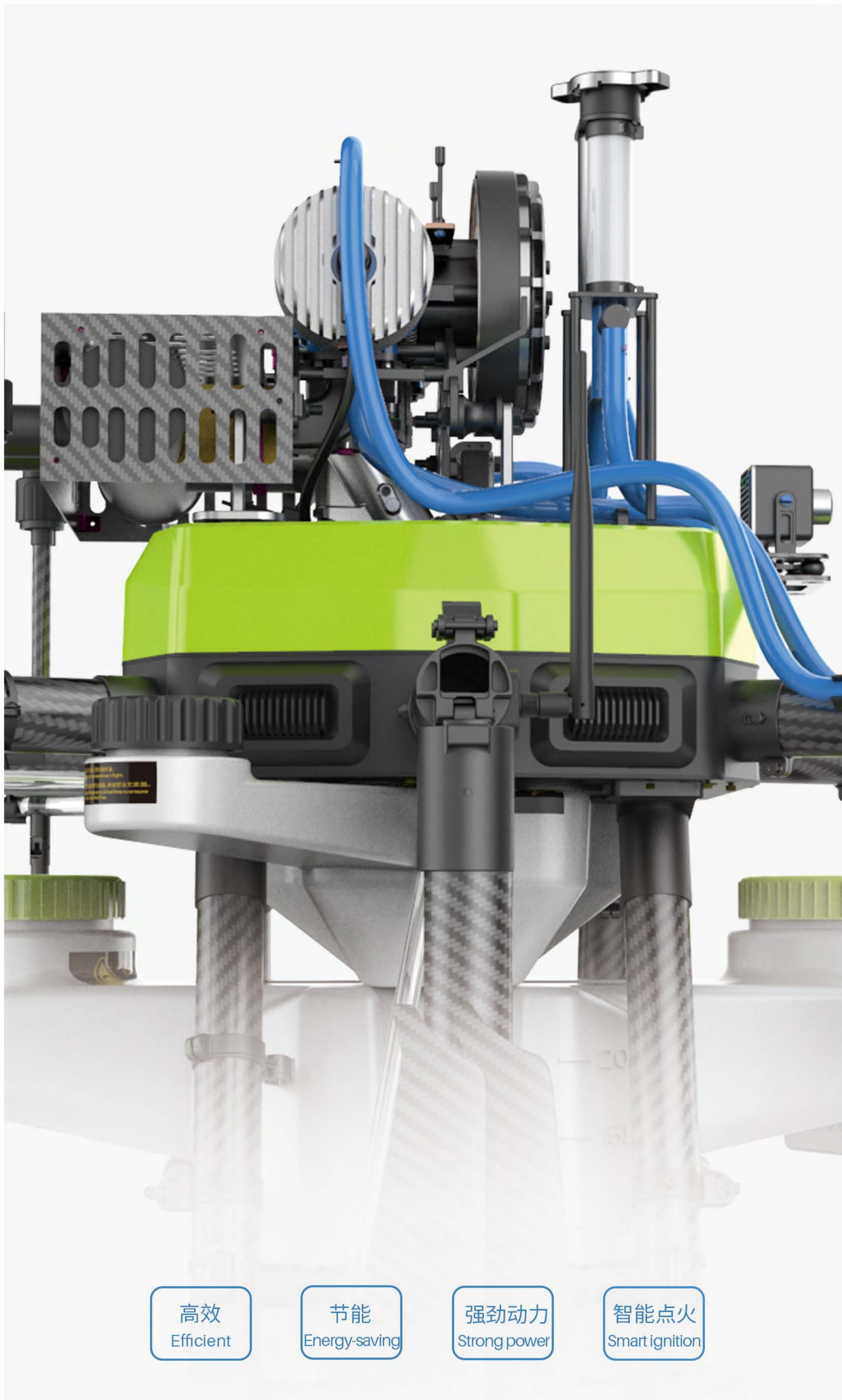


### 超强续航，油电混合系统

AG18油电混合无人机采用先进的汽油发动机带发电机一体化动力电源技术，结合油动和电动的各项优势。油动发电，保留了燃油的高能量。电力驱动旋翼，又保留了电驱动操纵灵活稳定的特点。空载满油最大飞行时间：25分钟，超长的飞行时间有效保证作业效率。

### Super long endurance, Oil and electricity hybrid system

The AG18 hybrid is powered by an advanced Gasoline engine with generator integrated power supply technology, combine the advantages of oil and electricity. Oil power generation, The retention of high fuel energy. The electric drive rotor retains the characteristics of flexible and stable operation of electric drive. Max. flight time for empty fuel: 25 minutes, extra long flight time effectively ensures operation efficiency



高效  
Efficient

节能  
Energy-saving

强劲动力  
Strong power

智能点火  
Smart ignition



### AG18带有水冷系统的发动机

AG18油电混合农业植保无人机采用带有水冷系统发动机，液冷发动机的冷却系统通过发动机中的管道和通路进行液体的循环。当液体流经高温发动机时会吸收热量，从而降低发动机的温度。液体流过发动机后，转而流向热交换器（或散热器），液体中的热量通过热交换器散发到空气中。

### AG18 engine with water cooling system

The AG18 hybrid agriculture plant protection UAV uses a water-cooled engine with a liquid-cooled engine, which circulates liquid through pipes and channels in the engine. As the liquid flows through the hot engine, it absorbs heat, which lowers the temperature of the engine. This lowers the temperature of the engine. After the liquid flows through the engine, it flows to the heat exchanger (or radiator), where heat from the liquid is released into the air.

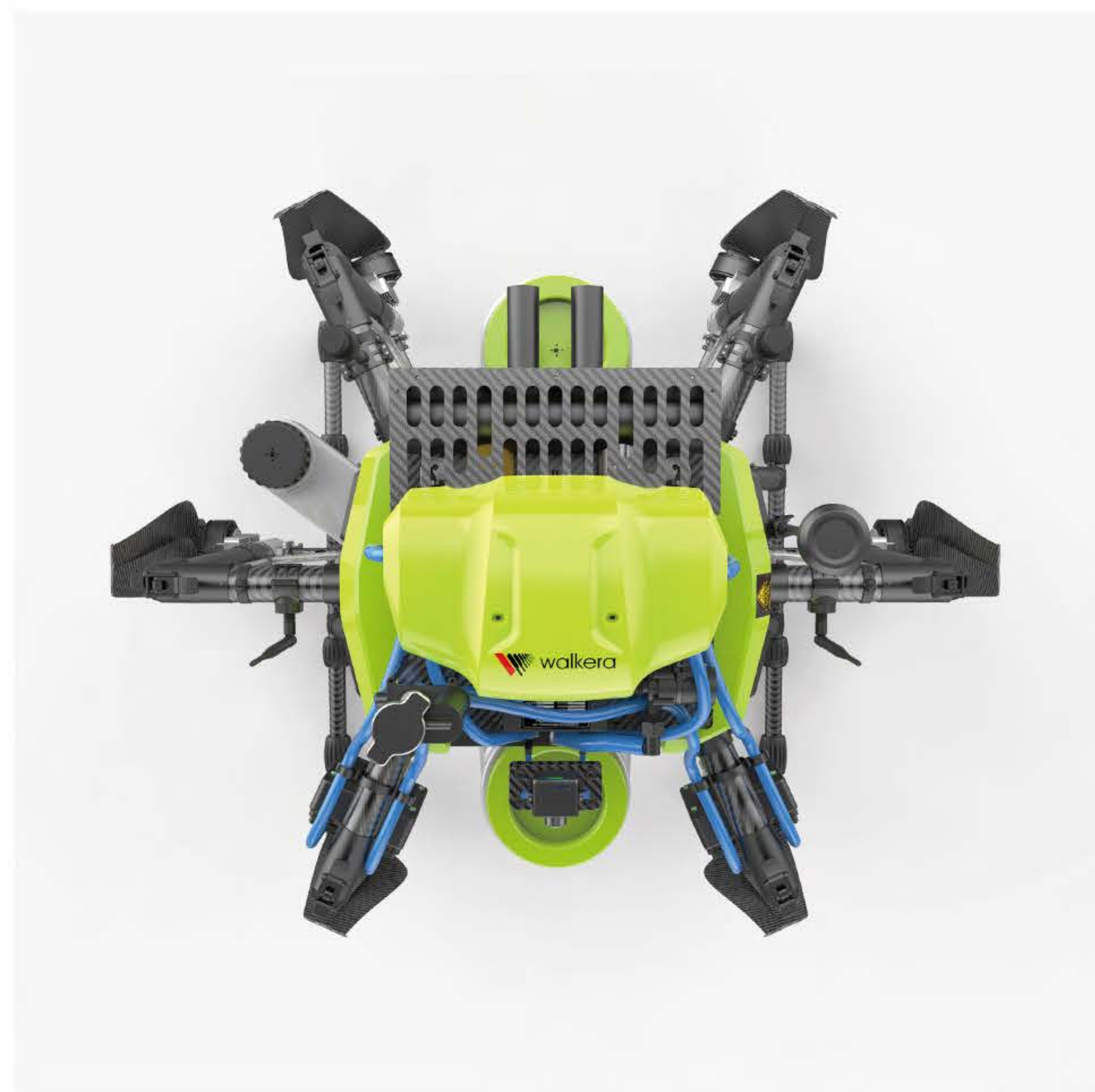


### 折叠机身设计

AG18油电混合无人机六条机臂采用均可垂直折叠设计，结构紧凑牢固。在保证结构强度需求的同时方便日常运输及装配，减少飞机的占用面积，为工作人员减少装箱的难度节省组装的时间，对运输工具的要求也大大的降低。

### Folding fuselage design

The six machine arms of AG18 oil-electric hybrid UAV adopt vertical folding design, which is compact and firm. which is convenient for daily transportation and assembly while ensuring structural strength demand, reduces the occupied area of the aircraft, reduces the difficulty of packing and saves the assembly time for the staff, and greatly reduces the requirements on the transport tools.



### 模块化设计

AG18油电混合无人机整体采用模块化机体结构设计，使机臂、电机、电调等易损部件若出现故障或损坏，可快速拆卸、更换，让后期维护变得更加方便和经济。

### Modular design

The AG18 oil-electric hybrid UAV is designed with modular body structure, If the vulnerable parts such as machine arm, motor and electric control are broken or damaged, they can be quickly disassembled and replaced, making the later maintenance more convenient and economical.





18L

超大药箱  
Large medicine chest

8m

超宽喷幅  
Ultra wide spray

145亩/h

工作效率  
Work efficiency

RTK

RTK厘米级定位  
RTK accurately hovering

IP65

三防性能  
Three-proofing performance



### 强劲下压风场搭配专业防风喷头，喷洒覆盖更加均匀、纵深。

采用大动力电机及碳纤维螺旋桨，不仅为机体提供强劲动力，还可产生强大的下压风场，作用于桨叶下方的专业防风喷头，有效减少药雾被旋翼气流卷起，使药雾喷洒穿透性更强，覆盖更均匀，提高喷洒效果，还能防止机身药雾的残留，保证无人机接触的安全性。

### Strong down force wind field with professional windproof sprinkler, spray coverage is more uniform and deep.

The use of large power motor and carbon fiber propeller not only provides the body with strong power, but also produces strong down force wind field, The professional windproof sprinkler acting on the underside of the blade can effectively reduce the dust fog being rolled up by the rotor air flow, making the spray more penetrating, more uniform coverage, and improve the spraying effect. Besides, it can prevent the residual dust in the fuselage and ensure the safety of the UAV in contact.



### 专属APP，智能路线规划

支持智能规划航线，配合专为农业应用量身定制的APP，可为非规整地形提供航线规划，实现实时对飞行轨迹进行编辑修改，智能灵活操作飞行路线，并能计算喷洒面积，进而辅助作业人员更精准地掌握用药量。

### Exclusive APP, intelligent route planning

Support intelligent flight planning and cooperate with an APP tailored for agricultural applications, it can provide route planning for irregular terrain and realize real-time editing and modification of flight path, It can operate the flight path intelligently and flexibly, and can calculate the spraying area, so as to help operators master the dosage more accurately.



### 严酷的环境，依然出色

AG18油电混合无人机除了继承油电混合系统，拥有超强的续航能力之外，还具备工业级防水、防尘、防腐蚀能力，能有效阻隔药雾喷洒带来的药雾渗透，适应严酷的田间作业环境，强度高、维护成本低、寿命长。

### Harsh environment, still outstanding

AG18 oil-electric hybrid UAV in addition to inherit the hybrid system, has a strong life, industrial-strength waterproof, dustproof, anti-corrosion ability, also can bring the medicine effective prevention medicine mist spraying fog penetration, to adapt to the harsh working environment, in the field of the high strength, low maintenance cost, long service life.



### 挂载夜视相机

秉承着一贯的创新精神，华科尔匠心独运地推出新一代挂载夜视相机农业植保无人机，巧妙地融合了星光级夜视相机，从此打破了黑夜的束缚，不再受光线不足的困扰，夜间实时动态清晰展现，全方位多角度地进行作业，清晰捕捉夜间的真实瞬间。

### Install night vision camera

In line with the consistent spirit of innovation, WALKERA creatively launched a new generation of agricultural plant protection UAV with mounted night vision cameras, the starlight level night vision camera is ingeniously integrated, thus breaking the constraints of the night and no longer being troubled by insufficient light. It can be shown in real time and dynamically at night, and it can be operated from all aspects and angles to capture the real moments of the night clearly.



### 精准定位，无惧干扰

AG18油电混合采用的是高精度导航定位系统，配合新一代基站，定位精度可达厘米级，双天线技术具有强大的抗磁干扰能力，在高压线附近等复杂环境中依然能够稳定飞行。

### Accurate positioning without fear of interference

The AG18 hybrid uses a high precision navigation and positioning system, with the new generation base station, the positioning accuracy can reach cm, dual-antenna technology has strong anti-magnetic interference ability, and can still fly stably in complex environments such as near high-voltage lines.



碳纤维结构  
Carbon fiber structure



安装简易  
Easy to install



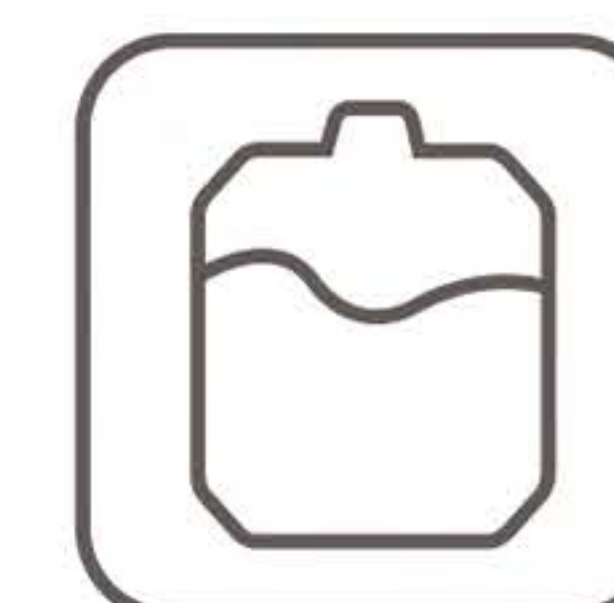
实时图传  
Real-time image transmission



RTK精准定位  
RTK Precise Location



三防性能  
Three anti-performance



感知容量  
Density sensing

## AG18植保无人机专用带屏遥控器

针对农业应用的特殊需求，我们专为AG18农业植保无人机而设计带屏遥控器，带屏遥控器集便携与高亮显示一身，在阳光直射下也能呈现清晰图像，结合内置APP,让你摆脱使用普通移动设备时的繁杂信息的干扰，更加轻松高效作业。

### AG18 Plant Protection UAV Special Remote Controller with Screen

Aiming at the special needs of agricultural application, we designed a remote controller with screen for AG18 agricultural plant protection UAV, The remote controller with screen is portable and highlighted. It can also display clear images in direct sunlight, with built-in APP, you can get rid of the interference of complicated information when using ordinary mobile devices, and work more easily and efficiently.



#### 高亮显示屏

AG18植保机带屏遥控器集成 7.86 英寸2K高亮显示屏，屏幕最高亮度达2000 cd/m<sup>2</sup>，约为普通移动设备的两倍，在阳光直射下仍清晰可见，作业更加安全可靠。

#### High-brightness Display Screen

AG18 plant protection UAV with screen remote controller integrates 7.86 inch 2K high-brightness display screen with maximum brightness of 2000 cd/m<sup>2</sup>, It's about twice as safe and reliable as ordinary mobile devices, and it's still visible in direct sunlight.



#### 高清图传

AG18植保机带屏遥控器配备高清图传系统拥有5.8G数字图传系统，波长长，抗干扰能力强，信号有效距离可达6KM，传输稳定可靠。

#### HD image transmission

AG18 plant protection machine with screen remote control equipped with high-definition image transmission system has 5.8G digital image transmission system, long wavelength, strong anti-interference ability, Signal effective distance up to 6KM, stable and reliable transmission.

## AG18带屏遥控器定制化系统

定制化Android系统搭配深度优化的Walkera AG18 APP，摆脱使用普通移动设备时的操作卡顿和繁杂信息的干扰，让作业更高效、安全；同时，系统还支持安装其它安卓APP，从而实现更多影像编辑和分享功能。

### Customization System of AG18 Remote Controller with Screen

Customized Android System Collocation Depth Optimized Walkera AG18 APP, Get rid of the interference of operation carton and complicated information when using ordinary mobile devices, and make the operation more efficient and safe; At the same time, the system also supports the installation of other Android APP to achieve more image editing and sharing functions.



## AG18植保无人机专用APP

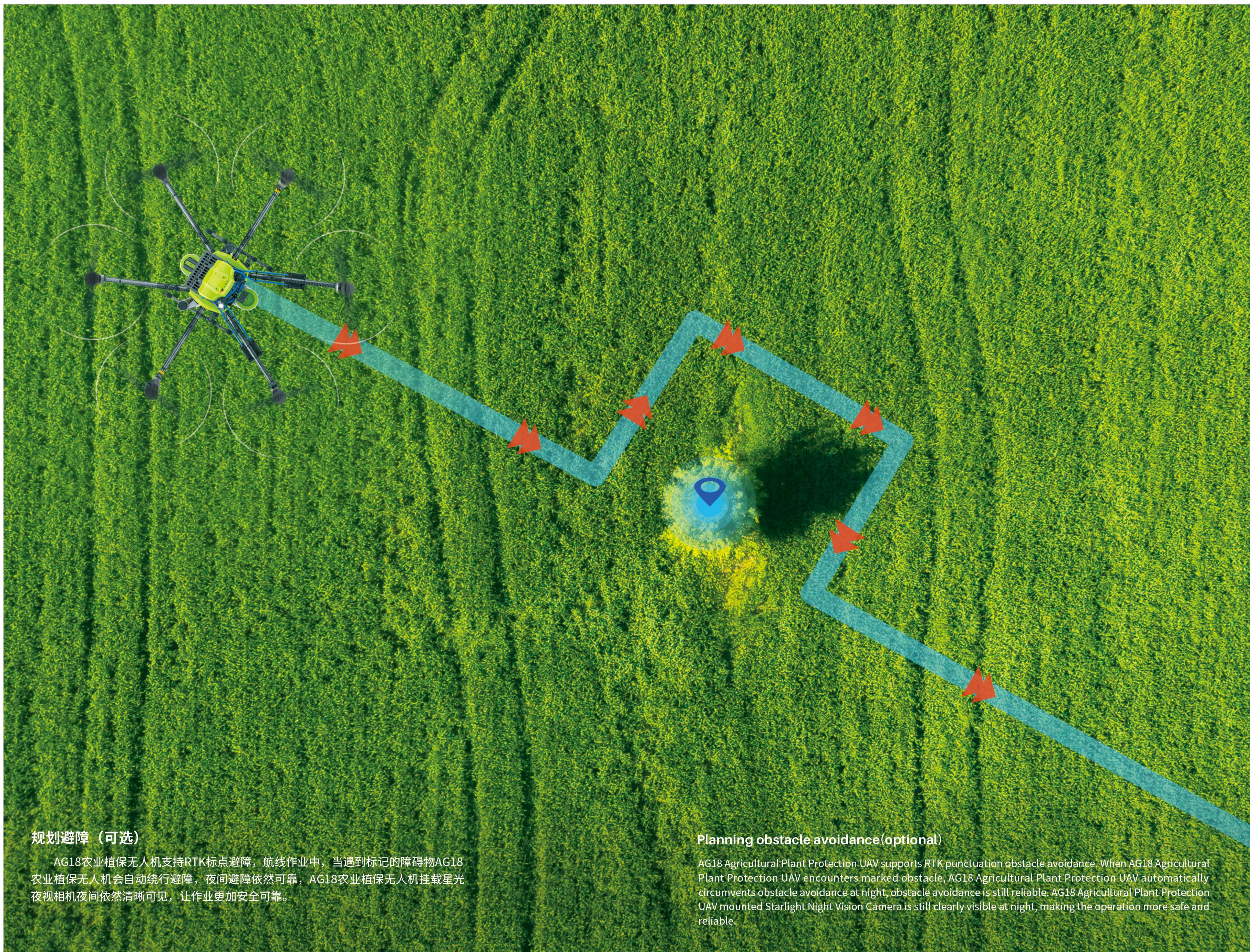
针对农业应用的特殊需求，我们专为AG18农业植保无人机而设计的APP，简化操作，轻松作业。可视化平台，方便操作者统计和监管，实时查看植保作业的进度、作业面积、规划作业航线等功能，让操作员不重喷漏喷，实时显示作业参数及飞行参数等。

### Special APP for AG18 plant protection UAV

To meet the special needs of agricultural applications, we designed an APP specifically for AG18 agricultural plant protection UAV, which simplifies the operation and makes it easy to operate. The monitoring platform can make it convenient for operators to make statistics and supervision, check the progress of plant protection operation in real time, operation area, and plan operation routes, etc., so that the operator does not blow and leak, and display operation parameters and flight parameters in real time.







### 规划避障（可选）

AG18农业植保无人机支持RTK标点避障，航线作业中，当遇到标记的障碍物AG18农业植保无人机会自动绕行避障，夜间避障依然可靠，AG18农业植保无人机挂载星光夜视相机夜间依然清晰可见，让作业更加安全可靠。

### Planning obstacle avoidance (optional)

AG18 Agricultural Plant Protection UAV supports RTK punctuation obstacle avoidance. When AG18 Agricultural Plant Protection UAV encounters marked obstacle, AG18 Agricultural Plant Protection UAV automatically circumvents obstacle avoidance at night, obstacle avoidance is still reliable. AG18 Agricultural Plant Protection UAV mounted Starlight Night Vision Camera is still clearly visible at night, making the operation more safe and reliable.



### 仿地形模块

AG18防地形版, 植保无人机根据地形的复杂性, 跟随地形保持飞行器的航向不变, 靠纵向机动能力随地形起伏改变高度, 使其尽量跟地面保存一致的飞行轨迹。

### Anti-terrain module

AG18 anti-terrain version: according to the complexity of terrain, plant protection UAV keeps the aircraft's course unchanged following the terrain, and changes the height with the relief of terrain by longitudinal maneuvering ability, so that it can keep consistent flight track with the ground as much as possible.

## 技术参数

<b>飞行器</b>	<b>喷洒系统</b>
对称电机轴距: 1900mm	药液箱 :材质:吹塑级HDPE; 额定容量:18L
机身尺寸:展开2055mm × 1780mm × 1050mm	喷头 :型号:110015VS
折叠960mm × 820mm × 1050mm	型式:扇型雾喷头; 数量:4个
电机:KV值:110rpm/V; 定子尺寸:(96*16) mm	液泵 :型式:隔膜泵; 流量:1.5L/min
额定功率:3800W	最大喷洒流量 :2.4L/min(以水为例)
电调:持续电流:120A(散热条件良好)	喷幅:3~8m(4个喷头,距作物高度约1.5~3m)
支持锂电:6-12S; 兼容信号频率:(50~500)Hz	雾化粒径 :170~265um (与实际工作环境、喷洒流量等有关)
桨叶规格:尺寸:直径*螺距:(34*11.2)inch; 材质:碳纤维	喷杆长度:1950mm
数量:6个	<b>电喷发动机参数</b>
重量:标准起飞重量: 35.8kg(不含油和药)	驱动器 :双缸汽油混合发动机
最大起飞重量: 56.1kg(海平面)	排量 :120CC
最大作业飞行速度: 8m/s	发电机 :WK-WS-150-001
最大水平飞行速度: 定位模式:8m/s 姿态模式:15m/s	最大功率/转速 :7.5KW 8400r/min
最大可承受风速: 8 m/s	输出电压 :DC50V
最大飞行海拔高度: 5000m	动力电池 :12S (容量≥1800mAh, 放电倍率≥75C)
智能飞行辅助电池:45.6V 4400mAh 70C 12S LiHV	油耗 :730g/kw.H(悬停6升/小时)
飞行时间: 25 分钟	火花塞: NGK CM-6
GNSS: GPS+GLONASS 或BDSS+GLONASS 双模双冗余	燃油类型: 95#以上无铅汽油+2T全合成润滑油(摩德威、摩特Motul 710等)
悬停精度(GNSS 信号良好): 未启用RTK: 垂直:±0.3 m	燃油比例 :25:1 (海拔高度、温度、湿度有关)
水平:±0.6 m; 启用RTK: 垂直:±10cm 水平:±10cm	冷却液 :汽车防冻液发动机冷却液
工作环境温度: 0°C至+40°C智能飞行辅助电池	使用环境温度 :-20°C至+50°C
<b>RTK</b>	最大海拔高度 :5000米
使用频段: GPS: L1 /L2/L5 GLONASS:F1/F2	油箱容量:3L
BeiDou: B1/B2/B3 Galileo:E1/E5	<b>遥控器</b>
定位精度: 水平:1cm+1ppm 垂直:2cm+1ppm	屏幕 :7.86inch; 分辨率:2048×1536; 亮度:2000cd/m2
1ppm: 每增加1km,精度变差1mm	工作频率 :2.4GHz&5.8GHz双频
定位更新率: 1Hz, 2Hz, 5Hz, 10Hz和20Hz	内存 :RAM: 4G; ROM: 16G
冷启动: <45s	系统 :Android 5.1
热启动: <10s	信号有效距离 :约6千米 (开阔无遮挡, 无电磁干扰)
重捕获: <1s	视频输出接口 :HDMI
初始化可靠性: >99.9%	电池 :7.4V 9000mAh LiPo 2S
差分数据传输格式: RTCM 2.X/3.X	存储卡类型:最大支持64GB容量的microSD卡
数据链路: 蓝牙Bluetooth	<b>FPV相机</b>
通信距离: 2km(开阔无遮挡, 无电磁干扰)	影像传感器: 1/2.7英寸 SONY CMOS,有效像素200万
锂电池: 7.4V 6000mAh 10C LiPo 2S	镜头 :FOV 85°; 4.4mm; F1.2光圈
工作环境温度: 0°C至45°C	分辨率:1920x1080 30fps
<b>定高系统</b>	
高度测量范围: 1~30 m (会因目标物体的材料、形状、位置等不同而有所差异)	
定高范围: 1.5~3.5m	



### RTK模块 (可选)

AG18 RTK版采用高精度导航定位技术, 定位精度达厘米级, 航线轨迹精确可重复调用; 双天线测向技术具有强大的抗磁干扰能力, 保障AG18 RTK在高压线附近等复杂环境中稳定飞行。

### RTK module (optional)

AG18 RTK version of high precision navigation positioning technology, positioning accuracy to centimeter-level, precise-route track can be repeated calls; the dual-antenna direction-finding technology has strong anti-magnetic interference ability, which ensures the stable flight of AG18 RTK in complex environments such as high pressure line.

## Technical data

<b>Aircraft</b>	<b>Sprinkler system</b>
Symmetrical motor wheelbase :1900mm	Spray tank : Material: blow molded grade HDPE
Body size:Unfolding:2055x1780x1050mm	rated capacity: 18L
Folding:960x820x1050mm	Sprinkler : Model: 110015VS; Type: Fan-shaped fog
Brushless Motor :KV Value: 110rpm/V	sprinkler; Quantity: 4
Stator size: (96*16)mm; Rated power: 3800W	Liquid pump:Type: diaphragm pump; Flow rate: 1.5L /min
Brushless ESC :Continuous current:	Maximum spray flow : 2.4L/min (taking water as an example)
120A(good heat dissipation condition)	Spray range : 3 to 8m (4 nozzles, about 1.5-3m high from the crop)
Propeller size :Diameter x pitch: (34 x 11.2)inch	Particle size of atomization : 170~265um (related to
Material : carbon fiber; Quantity: 6pcs	actual operation environment, spraying flow, etc.)
Weight :Standard takeoff weight: 35.8kg (excluding oil	Length of spray rod : 1950mm
and pesticide);Max. takeoff weight: 56.1kg(sea level)	<b>EFI Engine</b>
Max. operating flight speed :8m/s	Drive : Double Cylinder Gasoline Hybrid Engine
Max. horizontal flight speed :Positioning Mode: 8m/s	Displacement : 120CC
attitude Mode: 15m/s	Generator : WK-WS-150-001
Max. wind speed : 8m/s	Maximum power/speed : 7.5KW 8400r/min
Max. flight altitude : 5000m	Output voltage : DC50V
Intelligent flight auxiliary battery :45.6V 4400mAh 70C 12S LiHV	Power battery : 12S(Capacity ≥ 1800mAh, discharge rate ≥ 75C)
Load Flight Time :25mins	Oil Consumption : 730g/kw.H (Hover 6 L/H)
GNSS:GPS+GLONASS or BDSS+GLONASS dual mode	Sparking plug : NGK CM-6
dual redundancy	Fuel type : Lead-free gasoline superior to 95# +2T full
Hovering accuracy(good GNSS signal) : RTK enabled:	synthetic oil (motorway, Motul 710, etc.)
vertical: ± 10cm horizontal: ± 10cm; RTK disabled:	Fuel ratio : 25:1 (related to altitude, temperature and humidity)
vertical: ± 0.3m horizontal: ± 0.6m	Coolant : Car antifreeze engine coolant
Working temperature : 0°C to 40°C	Environment temperature : -20°C to +50°C
<b>RTK</b>	Maximum altitude : 5000m
Frequency band: GPS: L1 / L2 / L5 GLONASS: F1 / F2	Fuel tank capacity: 3L
BeiDou: B1 / B2 / B3 Galileo: E1 / E5	<b>Remote controller</b>
Positioning accuracy: horizontal: 1cm +1ppm vertical: 2cm +1ppm	Screen :7.86inch; Resolution ratio: 2048*1536
1ppm: precision reduces by 1mm with increase of every 1km	Brightness: 2000cd/m2
Location update rate: 1Hz, 2Hz, 5Hz, 10Hz and 20Hz	Operation frequency :2.4GHz&5.8GHz dual frequency
Cold start: < 45s	Internal storage :RAM: 4G; ROM: 16G
Hot start: < 10s	System : Android 5.1
Another capture: < 1s	Effective distance of signal :About 6km (open without
Initialization reliability: > 99.9%	blockage, no electromagnetic interference)
Differential data : RTCM 2. X / 3. X	Video output interface : HDMI
Data link : Bluetooth	Battery :7.4V 9000mAh LiPo 2S
Communication distance : 2km (open without shelter,	Memory card type : Support microSD card with 64GB
without electromagnetic interference)	capacity at most
Battery : 7.4V 6000mAh 10C LiPo 2S	<b>FPV camera</b>
Working temperature: 0 °C to 45 °C	Image sensor : 1/2.7 inches SONY CMOS,
<b>Altitude system</b>	effective pixels 2 million
Altitude measurement range:1~30m (It will vary according	Camera lens : FOV 85°; 4.4mm; F1.2 diaphragms
to the material, shape and position of the target object)	Resolution ratio : 1920x1080 30fps
Altitude range: 1.5~3.5m	